

? b biochem

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11-23-98  
08/474,388

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Set Items Description

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>>>      162 is unauthorized
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	FTSNET	0.004 Hrs.	
\$1.14	Estimated cost this search		
\$1.39	Estimated total session cost	0.328 DialUnits	

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File 76:Life Sciences Collection 1982-1998/Oct  
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File 94:JICST-EPlus 1985-1998/Sep W1  
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File 143:Biol. & Agric. Index 1983-1998/Oct  
(c) 1998 The HW Wilson Co

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Processing		
Completed processing all files		
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	570470	ADHESION
	1418273	MOLECULE?
S1	33157	INTERCELLULAR (W) ADHESION (W) MOLECULE?
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S2	542	S1 NOT PY>1989

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Processed 30 of 33 files ...  
Completed processing all files

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? s s3 not py=1988

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S4	41	S3 NOT PY=1988

? rd s4

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11016598 BIOSIS NO.: 199799637743  
Regulation of apoptosis in NK cells.

AUTHOR: Bonavida Benjamin; Jewett Anahid; Mori Shunsuke  
AUTHOR ADDRESS: Dep. Microbiol. Immunol., UCLA Sch. Med., Los Angeles, CA,  
USA

JOURNAL: Natural Immunity 15 (4):p204 1996-1997

CONFERENCE/MEETING: IVth International Workshop of the Society for Natural  
Immunity Helsinki, Finland May 28-31, 1997  
ISSN: 1018-8916  
RECORD TYPE: Citation  
LANGUAGE: English

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11016564 BIOSIS NO.: 199799637709  
Direct binding of ezrin to ICAM-1 and ICAM-2: Regulation by  
phosphoinositide pathway.

AUTHOR: Heiska Leena(a); Vilja Pekka; Turunen Ossi; Vaheri Antti; Carpen  
Olli(a)  
AUTHOR ADDRESS: (a)Dep. Pathol., Univ. Helsinki, Haartman Inst., Helsinki,  
Finland

JOURNAL: Natural Immunity 15 (4):p188 1996-1997

CONFERENCE/MEETING: IVth International Workshop of the Society for Natural  
Immunity Helsinki, Finland May 28-31, 1997  
ISSN: 1018-8916  
RECORD TYPE: Citation  
LANGUAGE: English

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11016560 BIOSIS NO.: 199799637705  
Cellular polarization and adhesion receptor redistribution by chemokines in  
NK cells: A cooperative mechanism for cell recruitment.

AUTHOR: Nieto Marta; Perez-Villar Juan Jose; Del Pozo Miguel Angel;  
Lopez-Botet Miguel; Sanchez-Madrid Francisco  
AUTHOR ADDRESS: Serv. Inmunologia, Hospital Princesa, Univ. Autonoma  
Madrid, Madrid, Spain

JOURNAL: Natural Immunity 15 (4):p186 1996-1997

CONFERENCE/MEETING: IVth International Workshop of the Society for Natural

Immunity Helsinki, Finland May 28-31, 1997  
ISSN: 1018-8916  
RECORD TYPE: Citation  
LANGUAGE: English

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11016558 BIOSIS NO.: 199799637703  
Characterization of a unique porcine Fc-gamma-RIIIA molecular complex.

AUTHOR: Kim Yoon B(a); Sweeney Susan E; Zhang Jie; Cho Daeho; Aller Steve C  
; Halloran Patrick J  
AUTHOR ADDRESS: (a)Dep. Microbiol. Immunol., Finch Univ. Health Sci.,  
Chicago Med. Sch., North Chicago, IL, USA

JOURNAL: Natural Immunity 15 (4):p185 1996-1997✓

CONFERENCE/MEETING: IVth International Workshop of the Society for Natural  
Immunity Helsinki, Finland May 28-31, 1997  
ISSN: 1018-8916  
RECORD TYPE: Citation  
LANGUAGE: English

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10886642 BIOSIS NO.: 199799507787  
Inhibitory effect of fluvastatin, an HMG-CoA reductase inhibitor, on the  
expression of adhesion molecules on human monocyte cell line.

AUTHOR: Niwa Satoru; Totsuka Tetsuya(a); Hayashi Shigehiro  
AUTHOR ADDRESS: (a)Dep. Pharmacol., Sandoz Tsukuba Res. Inst., Ohkubo 8,  
Tsukuba, Ibaraki 300-26, Japan

JOURNAL: International Journal of Immunopharmacology 18 (11):p669-675 1996✓  
(1997)  
ISSN: 0192-0561  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: The effect of fluvastatin, an HMG-CoA reductase inhibitor, was  
investigated on the adhesive interaction between U937 cells, the human  
monocyte cell line, and human umbilical vein endothelial cells (HUVEC),  
focusing on the expression of adhesion molecules. U937 treated with  
fluvastatin lowered the capacity for binding to HUVEC. Fluvastatin at 0.1  
mu-M or more inhibited the expression of lymphocyte function associated  
antigen-1 (LFA-1) on U937 and %%%intercellular%%% %%%adhesion%%%  
%%molecule%%-1 (ICAM-1) on U937. The expression of ICAM-1 on HUVEC was  
not inhibited by fluvastatin. The inhibitory effects of fluvastatin on  
the expression of adhesion molecules on U937 were completely reversed by  
the addition of mevalonate. Because fluvastatin did not affect the  
expression of other cell surface markers, CD4 and CD71, the inhibitory  
effects of fluvastatin on adhesion molecule expression could not be  
attributed to the non-specific suppression of the cell. It is conceivable  
that cellular interaction between monocytes and endothelial cells is  
inhibited by fluvastatin, mediated via reducing the expression of  
adhesion molecules, particularly in the side of monocyte.

5/7/6 (Item 6 from file: 5)  
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10580088 BIOSIS NO.: 199699201233

Levels of soluble adhesion molecules and cytokines in patients with septic multiple organ failure.

AUTHOR: Endo Shigeatsu(a); Inada Katsuya; Kasai Takeshi; Takakuwa Tetsuya; Yamada Yasuhiko; Koike Soichi; Wakabayashi Go; Niimi Mitsuhiro; Taniguchi Shigeru; Yoshida Masao

AUTHOR ADDRESS: (a)Critical Care Emergency Center, Iwate Med. Univ., 19-1 Uchimaru, Morioka 020, Japan

JOURNAL: Journal of Inflammation 46 (4):p212-219 1995-1996

ISSN: 1078-7852

DOCUMENT TYPE: Article

RECORD TYPE: Abstract

LANGUAGE: English

ABSTRACT: Multiple organ failure (MOF) is a common complication of sepsis or septic shock. In this condition, it is believed that activated neutrophils adhere to the vascular endothelium and induce various mediators and tissue damage, leading to organ damage. We investigated the plasma levels of inflammatory cytokine activating neutrophils, soluble adhesive molecules, and endotoxin in 8 patients with septic MOF, 15 patients with sepsis but without MOF, and in 5 patients with MOF unrelated infection. The soluble intercellular adhesion molecules (sICAM-1) concentration in sepsis-complicated groups was significantly higher than that in the multiple organ failure (MOF) group without infection. Of sepsis-complicated groups, the sICAM-1 value in the MOF group was significantly higher than that in the sepsis group without MOF. In sepsis-complicated groups, both soluble endothelial-leukocyte adhesion molecule-1 (sELAM-1) and soluble vascular cell adhesion molecules (sVCAM-1) concentrations were significantly higher than those in the MOF group without infection. However, there was no significant difference between the septic MOF group and the sepsis group without MOF. In patients showing high levels of soluble adhesion molecule, prognosis was poor, and the concentration of soluble adhesion molecules rapidly decreased during recovery from MOF. It is speculated that endotoxin and inflammatory cytokines damage vascular endothelium as well as various other cells and produce, a large number of adhesion molecule, especially in patients with septic MOF, causing leakage of adhesion molecules into blood.

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10564407 BIOSIS NO.: 199699185552

Distribution of intercellular adhesion molecule-1 on leukocytes and corneal endothelium after endotoxin stimulation in rats.

AUTHOR: Yamaguchi K(a); Takahashi Y; Takahashi S; Shoji T; Yuki Y; Sasaki K; Tonosaki A

AUTHOR ADDRESS: (a)Dep. Ophthalmol., Yamagata Univ. Sch. Med., 2-2-2 Iidanishi, Yamagata 990-23, Japan

JOURNAL: International Ophthalmology 19 (5):p303-306 1995-1996

ISSN: 0165-5701

DOCUMENT TYPE: Article

RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: After stimulation with Salmonella typhimurium endotoxin, the intercellular adhesion molecule-1 (ICAM-1) was studied on the corneal endothelium and associated leukocytes in rats using immunoscanning electron microscopy. Two hundred µg of the endotoxin was injected in Lewis rats. The corneae were excised at 0-h and 16-h-postinjection time (n = 5, respectively). The corneae were prepared in hypothermic University of Wisconsin (UW) solution for immunoscanning electron microscopy. Histotopographical examination visualized ICAM-1 antigen on cytoplasmic processes of the corneal endothelium, arranged along microfolds, especially at the peaks. In the leukocytes, ICAM-1 was located primarily in morphologically non-specialized domains of the cell body surface, and only rarely scattered on the surface of microvillar projections. We concluded that the endotoxin stimulation can increase ICAM-1 in both corneal endothelium and associated leukocytes. Increased ICAM-1 may be an important factor for the leukocytes to form clustering and adhering to the corneal endothelium.

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10418660 BIOSIS NO.: 199699039805

In vivo function of homing receptors participating in lymphocyte recirculation: Transfer analysis in SCID mice.

AUTHOR: Saito Saburo(a); Kuwashima Naruo; Koizumi Haruko; Nomura Tatsuji; Yagita Hideo; Okumura Ko; Sonoda Akira; Tadakuma Takushi; Tanaka Hisako  
AUTHOR ADDRESS: (a) Inst. DNA Med., Jikei Univ. Sch. Med., 3-25-8 Nishi-Shinbashi, Minato-ku, Tokyo 105, Japan

JOURNAL: Pathobiology 63 (6):p305-313 1995 (1996)  
ISSN: 1015-2008  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: In order to examine the in vivo function of the adhesion molecules implicated in lymphocyte homing, blocking effects of antibodies against various adhesion molecules on lymphocyte migration were tested in SCID mice into which BALB/c donor splenocytes had been transferred. It was proved that the transferred donor splenocytes migrated to peripheral lymph nodes (LNs) of SCID mice. T and B lymphocytes were distributed in the specialized compartments as seen in the LNs of normal mice. Migration of lymphocytes to the local LNs was accelerated by stimulation with ovalbumin and complete Freund's adjuvant. This experimental system with accelerated migration was applied to analyze the in vivo function of adhesion molecules, and the following findings were obtained. Combined use of antibodies against lymphocyte-function-associated antigen 1 (LFA-1) and intercellular adhesion molecule 1 (ICAM-1) strongly inhibited the migration of T lymphocytes to the peripheral LNs. Antibodies against very late antigen 4 (VLA-4) and vascular cell adhesion molecule 1 (VCAM-1) led to diminished B lymphocyte migration and disturbed compartmentalization of T lymphocytes in the paracortex. Migration of both T and B lymphocytes to the LNs was completely inhibited by the antibody against L-selectin. These results indicate that L-selectin plays an essential role in migration of both T and B lymphocytes into peripheral LNs but LFA-1/ICAM-1 and VLA-4/VCAM-1 play different roles in compartmentalization of T and B lymphocytes in the peripheral LNs. In contrast, these adhesion molecules were not involved

in lymphocyte migration to the splenic white pulp, indicating that the mechanisms for lymphocyte homing to the white pulp are quite different from those to the peripheral LNs.

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09874151 BIOSIS NO.: 199598329069  
Effect of anti-ICAM-1 and anti-LFA-1 antibodies on the induction of anterior chamber-associated immune deviation.

AUTHOR: Li Xiao-Yan; Niederkorn Jerry Y(a)  
AUTHOR ADDRESS: (a)Dep. Ophthalmol., Univ. Texas Southwestern Med. Cent.,  
5323 Harry Hines Blvd., Dallas, TX 75235, USA

JOURNAL: Regional Immunology 6 (3):p232-237 1994 (1995)✓  
ISSN: 0896-0623  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Cell-adhesion molecules play a crucial role in a variety of immunological processes, including antigen presentation, cell-mediated cytotoxicity, immunoglobulin production, and lymphocyte homing. However, little is known about the contribution of cell-adhesion molecules in the induction of antigen-specific unresponsiveness. The present study examined the role of cell-adhesion molecules in the induction of a unique form of antigen-specific unresponsiveness, anterior chamber-associated immune deviation (ACAID). In vivo administration of monoclonal antibodies against leukocyte function antigen-1 (LFA-1) and intercellular adhesion molecule-1 (ICAM-1) prevented the induction of ACAID. Mice treated with either anti-ICAM-1 or anti-LFA-1 failed to develop regulatory cells that inhibited delayed-type hypersensitivity (DTH) responses to alloantigens. However, inhibition of ACAID was transient since mice were capable of developing ACAID 3 wk following cessation of antibody treatment. Flow-cytometry analysis of splenic lymphocytes revealed that the inhibitory effect of anti-cell-adhesion molecule antibodies was not due to depletion of CD4+, CD8+, or Thy 1.2+ T cells. The present findings indicate that LFA-1/ICAM-1 interactions are necessary for the induction of at least one regional immunoregulatory process, (i.e., ACAID).

5/7/10 (Item 10 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
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09812882 BIOSIS NO.: 199598267800  
Cell adhesion molecules in endotoxin-induced uveitis.

AUTHOR: Whitcup Scott M  
AUTHOR ADDRESS: Clinical Branch, National Eye Inst., National Inst.  
Health, Build. 10, Room 10n 202, Bethesda, MD 20, USA

JOURNAL: Regional Immunology 6 (1-2):p58-63 1994 (1995)✓  
ISSN: 0896-0623  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Injection of bacterial endotoxins will elicit intraocular

inflammation characterized by iris hyperemia, miosis, increased aqueous humor protein, and inflammatory cell infiltration into the anterior uvea and anterior chamber. This endotoxin-induced uveitis is a useful animal model for studying the mechanisms of acute ocular inflammation in humans. Endotoxin has been shown to upregulate expression of cell adhesion molecules both on leukocytes and on ocular tissues, and we have used this animal model to investigate the role of cell adhesion molecules in the development of ocular inflammation.

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09812877 BIOSIS NO.: 199598267795  
Differential expression of adhesion molecules in acute sympathetic ophthalmitis.

AUTHOR: Kuppner M C(a); Liversidge J; McKillop-Smith S; Lumsden L;  
Forrester J V  
AUTHOR ADDRESS: (a)Dep. Ophthalmology, Univ. Aberdeen Med. Sch.,  
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JOURNAL: Regional Immunology 6 (1-2):p38-41 1994 (1995)✓  
ISSN: 0896-0623  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Samples of iris, ciliary body, choroid, and retina from normal eyes and from two cases of sympathetic ophthalmitis (one acute and one late-stage fibrosis) were examined for the expression of the VLA integrins beta-1 and alpha-1-6, and the integrin beta-3, in addition to ICAM-1, VCAM-1, ELAM-1, and CD44 using an APAAP staining technique. The expression of VLA-4, VLA-5, VCAM-1, ICAM-1, and CD44 was significantly increased and ELAM-1 was slightly increased in acute sympathetic ophthalmitis in comparison to normal eyes. VLA-6 was moderately increased in acute and fibrotic cases, and VLA-2, VLA-3, beta-1, and beta-3 were moderately expressed on all the tissues examined. The increased expression of molecules known to be involved in lymphocyte activation and adhesion in acute sympathetic ophthalmitis suggests that certain adhesion molecules play a role in the pathogenesis of intraocular inflammation and may be suitable targets for immunotherapy.

5/7/12 (Item 12 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
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09812876 BIOSIS NO.: 199598267794  
Markers of endothelial dysfunction in Fuchs' heterochromic cyclitis.

AUTHOR: Murray Philip I(a); Pall Abeed; Rene Cornelius; Adu Dwomoa  
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Church Street, Birmingham B3 2NS, UK

JOURNAL: Regional Immunology 6 (1-2):p35-37 1994 (1995)✓  
ISSN: 0896-0623  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Fuchs' heterochromic cyclitis (FHC) is a chronic inflammatory

disease of unknown etiology, although immunological and vascular theories have been postulated. The interaction between inflammatory cells and vascular endothelium may be important in the causation and perpetuation of the intraocular inflammation. A study was undertaken to see if markers of endothelial dysfunction (intercellular adhesion molecule-1, E-selectin, vascular cell adhesion molecule, and anti-endothelial cell antibody) could be detected in FHC, which may lead to a better understanding of pathogenetic mechanisms. Elevated circulating levels of soluble intercellular adhesion molecule-1 (p = 0.014) and E-selectin (p = 0.0166) were found as compared to controls, but there was no statistically significant difference in vascular cell adhesion molecule levels. IgG anti-endothelial cell antibodies were detected in 20% of FHC patients. Markers of endothelial cell dysfunction can be demonstrated in the peripheral blood of patients with FHC and may have a role to play in the chronic inflammatory response seen in this condition.

5/7/13 (Item 13 from file: 5)  
DIALOG(R) File 5:BIOSIS PREVIEWS(R)  
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09727128 BIOSIS NO.: 199598182046

Comparative studies on vascular endothelium in vitro: I. Cytokine effects on the expression of adhesion molecules by human umbilical vein, saphenous vein and femoral artery endothelial cells.

AUTHOR: Klein Christoph L(a); Kohler Holger; Bittinger Fernando; Wagner Mechthild; Hermanns Iris; Grant Kenneth; Lewis Jon C; Kirkpatrick C James  
AUTHOR ADDRESS: (a) Inst. Pathology, Langenbeckstrasse I, D-55101 Mainz, Germany

JOURNAL: Pathobiology 62 (4):p199-208 1994 (1995)  
ISSN: 1015-2008  
DOCUMENT TYPE: Article  
RECORD TYPE: Abstract  
LANGUAGE: English

ABSTRACT: Endothelial cells (ECs) are very responsive to proinflammatory cytokines. ECs are stimulated by these substances to increase expression of cell surface adhesion molecules, leading to dramatically altered interactions with leukocytes. In these interactions, E-selectin, intercellular adhesion molecule-1 (ICAM-1) and vascular cell adhesion molecule-1 (VCAM-1) are suggested to play the most important role. Recent evidence has suggested diversity in the responses of ECs from different regions of the vascular system. Human umbilical vein ECs (HUVECs) are the most often used EC culture model, although there are few studies comparing their response with other human EC types from the adult organism. In this study the expression of E-selectin, ICAM-1 and VCAM-1 on cultured human adult ECs from the saphenous vein (HSVECs) and from the femoral artery (HAFECs), as well as HUVECs was studied. Using a cell enzyme immunoassay as well as immunoelectron microscopical methods, we found that both HSVECs and HAFECs respond in a similar way to HUVECs to exogenous stimulation by IL-1-beta, TNF-alpha or LPS. IL-1-beta and TNF-alpha increased the expression of E-selectin on the cytoplasmic membranes of HUVECs HSVECs and HAFECs and elicited even similar absolute quantities of this molecule, comparing the different cell types. ICAM-1 and VCAM-1 appeared to be regulated dose dependently by IL-1-beta, independent of the EC type. HUVECs as well as HSVECs and HAFECs gave a reproducible constitutive ICAM-1 expression, whereas E-selectin and VCAM-1 were absent on nonstimulated ECs. These data indicate that HUVEC is a relevant model to study the expression of adhesion molecules.

5/7/14 (Item 14 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
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09221700 BIOSIS NO.: 199497230070  
Serum levels of intercellular adhesion molecule-1 in  
patients with alcoholic liver disease.

AUTHOR: Shimada Seika; Yamauchi Masayoshi; Toda Gotaro  
AUTHOR ADDRESS: First Dep. Internal Med., Jikei Univ. Sch. Med., 3-25-8  
Nishi-Shinbashi, Minato-ku, Tokyo 105, Japan

JOURNAL: Alcohol and Alcoholism 28 (SUPPL. 1B):p47-51 1993 (1994)  
ISSN: 0735-0414  
DOCUMENT TYPE: Article  
RECORD TYPE: Citation  
LANGUAGE: English

5/7/15 (Item 15 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
(c) 1998 BIOSIS. All rts. reserv.

09187627 BIOSIS NO.: 199497195997  
Treatment of inflammation with anti-ICAM-1.

AUTHOR: Rothlein R; Mainolfi E A; Kishimoto T K  
AUTHOR ADDRESS: Boehringer Ingelheim Pharmaceuticals Inc., Ridgefield, CT,  
USA

JOURNAL: Research in Immunology 144 (9):p735-739 1993 (1994)  
ISSN: 0923-2494  
DOCUMENT TYPE: Article  
RECORD TYPE: Citation  
LANGUAGE: English

5/7/16 (Item 16 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
(c) 1998 BIOSIS. All rts. reserv.

09186856 BIOSIS NO.: 199497195226  
Sequestration and its discontents: Infected erythrocyte-endothelial cell  
interactions in Plasmodium falciparum malaria.

AUTHOR: Berendt A R  
AUTHOR ADDRESS: Molecular Parasitol. Group, Inst. Molecular Med., John  
Radcliffe Hosp., Headington, Oxford OX3 9DU, UK

JOURNAL: Research in Immunology 144 (9):p740-745 1993 (1994)  
ISSN: 0923-2494  
DOCUMENT TYPE: Article  
RECORD TYPE: Citation  
LANGUAGE: English

5/7/17 (Item 17 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
(c) 1998 BIOSIS. All rts. reserv.

08644150 BIOSIS NO.: 199345062225

Variation in the cytoadherence characteristics of malaria parasites: Is this a true virulence factor?

AUTHOR: Goldring J D; Hommel M

AUTHOR ADDRESS: Dep. Trop. Med. Infectious Diseases, Liverpool Sch.  
Tropical Med., Pembroke Place, Liverpool L3 5QA , UK

JOURNAL: Memorias do Instituto Oswaldo Cruz Rio de Janeiro 87 (SUPPL. 3):p  
313-322 1992 (1993)

CONFERENCE/MEETING: IV International Congress on Malaria and Babesiosis  
Rio de Janeiro, Brazil August 13-17, 1991

ISSN: 0074-0276

DOCUMENT TYPE: Article

RECORD TYPE: Citation

LANGUAGE: English

5/7/18 (Item 18 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
(c) 1998 BIOSIS. All rts. reserv.

06242658 BIOSIS NO.: 000086076840

PURIFIED %%%INTERCELLULAR%%% %%%ADHESION%%% %%%MOLECULE%%% -1 ICAM-1 IS A  
LIGAND FOR LYMPHOCYTE FUNCTION-ASSOCIATED ANTIGEN 1 LFA-1

AUTHOR: MARLIN S D; SPRINGER T A

AUTHOR ADDRESS: BOEHRINGER INGELHEIM PHARM., RIDGEFIELD, CONN. 06877.

JOURNAL: CELL 51 (5). 1987: 813-820.

FULL JOURNAL NAME: Cell

CODEN: CELLB

RECORD TYPE: Abstract

LANGUAGE: ENGLISH

ABSTRACT: Lymphocyte function-associated antigen 1 (LFA-1) is a leukocyte cell surface glycoprotein that promotes intercellular adhesion in immunological and inflammatory reactions. It is an .alpha..beta. complex that is structurally related to receptors for extracellular matrix components, and thus belongs to the integrin family. ICAM-1 ( %%%intercellular%%% %%%adhesion%%% %%%molecule%%% -1) is a distinct cell surface glycoprotein. Its broad distribution, regulated expression in inflammation, and involvement in LFA-1-dependent cell-cell adhesion have suggested that ICAM-1 may be a ligand for LFA-1. We have purified ICAM-1 and incorporated it into artificial supported lipid membranes. LFA-1+ but not LFA-1- cells bound to ICAM-1 in the artificial membranes, and the binding could be specifically inhibited by anti-ICAM-1 treatment of the membranes or by anti-LFA-1 treatment of the cells. The cell binding to ICAM-1 required metabolic energy production, an intact cytoskeleton, and the presence of Mg2+ and was temperature dependent, characteristics of LFA-1 and ICAM-1-dependent cell-cell adhesion.

5/7/19 (Item 19 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
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05271402 BIOSIS NO.: 000082112027

OVERLAPPING PATTERNS OF ACTIVATION OF HUMAN ENDOTHELIAL CELLS BY  
INTERLEUKIN 1 TUMOR NECROSIS FACTOR AND IMMUNE INTERFERON

AUTHOR: POBER J S; GIMBRONE M A JR; LAPIERRE L A; MENDRICK D L; FIERIS W;  
ROTHLEIN R; SPRINGER T A

AUTHOR ADDRESS: DEPT. OF PATHOLOGY, BRIGHAM AND WOMEN'S HOSPITAL, 75  
FRANCIS ST., BOSTON, MASS. 02115.

JOURNAL: J IMMUNOL 137 (6). 1986. 1893-1896.  
FULL JOURNAL NAME: Journal of Immunology  
CODEN: JOIMA  
RECORD TYPE: Abstract  
LANGUAGE: ENGLISH

ABSTRACT: We have used the quantitative binding of murine monoclonal antibodies to the surface of cultured human umbilical vein endothelial (HUVE) cells to study the responses of HUVE cells to three different immune mediators: interleukin 1 (IL 1), tumor necrosis factor (TNF), and immune interferon (IFN-.gamma.). Antibody H4/18, reactive with an endothelial cell-specific activation antigen, does not bind to unstimulated HUVE cells but shows rapidly and transiently inducible binding (peak 4 to 6 hr) to cells stimulated by IL 1 or TNF that declines to basal levels by 24 hr, even in the continued presence of mediator. Binding of H4/18 is unaffected by IFN-.gamma.. Antibody RR1/1, reactive with %%%intercellular%%% %%%adhesion%%% %%%molecule%%% 1, binds to unstimulated HUVE cells, but binding is rapidly increased (plateau 24 hr) after stimulation by IL 1 or TNF and slowly increased (over several days) by IFN-.gamma.. In contrast to H4/18 binding, the increase in RR1/1 binding is sustained in the continued presence of mediator. Antibody W6/32, reactive with HLA-A,B antigens, binds to unstimulated HUVE cells and shows gradually progressive increases (over several days) in binding upon treatment with IFN-.gamma. or TNF. These observations demonstrate tht HUVE cells show distinct but overlapping patterns of antigenic modulation in response to three different lymphokines, and suggest that the "activation" of endothelial cells observed in situ may represent a complex integration of several lymphokine-mediated signals.

5/7/20 (Item 20 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
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05248794 BIOSIS NO.: 000082089418  
A HUMAN %%%INTERCELLULAR%%% %%%ADHESION%%% %%%MOLECULE%%% DISTINCT FROM  
LFA-1

AUTHOR: ROTHLEIN R; DUSTIN M L; MARLIN S D; SPRINGER T A  
AUTHOR ADDRESS: LAB. MEMBRANE IMMUNOCHEM., DANA-FARBER CANCER INST.,  
BOSTON, MASS. 02115.

JOURNAL: J IMMUNOL 137 (4). 1986. 1270-1274.  
FULL JOURNAL NAME: Journal of Immunology  
CODEN: JOIMA  
RECORD TYPE: Abstract  
LANGUAGE: ENGLISH

ABSTRACT: Homotypic adhesion by phorbol ester-stimulated lymphocytes requires LFA-1 and Mg+2 and does not involve like-like interactions between LFA-1 molecules on adjacent cells. The latter finding suggested that a second molecule, distinct from LFA-1, also participates in LFA-1-dependent adhesion. The identification of such a molecule was the object of this investigation. After immunization with LFA-1-deficient EBV-transformed lymphoblastoid cells, a MAb was obtained that inhibits phorbol ester-stimulated aggregation of LFA-1+ EBV lines. This MAb defines a novel cell surface molecule, which is designated %%%intercellular%%% %%%adhesion%%% %%%molecule%%% 1 (ICAM-1). ICAM-1 is distinct from LFA-1 in both cell distribution and structure. In SDS-PAGE, ICAM-1 isolated from JY cells is a single chain of Mr = 90,000. As shown

by MAb inhibition, ICAM-1 participates in phorbol ester-stimulated adhesion reactions of B lymphocyte and myeloid cell lines and T lymphocytes blasts. However, aggregation of one T lymphocyte cell line (SKW-3) was inhibited by LFA-1 but not ICAM-1 MAb. It is proposed that ICAM-1 may be a ligand in many, but not all, LFA-1-dependent adhesion reactions.

5/7/21 (Item 21 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
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05223041 BIOSIS NO.: 000082063663  
INDUCTION BY INTERLEUKIN 1 AND INTERFERON-GAMMA TISSUE DISTRIBUTION  
BIOCHEMISTRY AND FUNCTION OF A NATURAL ADHERENCE MOLECULE INTRACELLULAR  
ADHERENCE MOLECULE-1

AUTHOR: DUSTIN M L; ROTHLEIN R; BHAN A K; DINARELLO C A; SPRINGER T A  
AUTHOR ADDRESS: LAB. MEMBRANE IMMUNOBIOCHEM., DANA FARBER CENT. INST.,  
BOSTON, MASS.

JOURNAL: J IMMUNOL 137 (1). 1986. 245-254.  
FULL JOURNAL NAME: Journal of Immunology  
CODEN: JOIMA  
RECORD TYPE: Abstract  
LANGUAGE: ENGLISH

ABSTRACT: ICAM-1 is a cell surface glycoprotein originally defined by a monoclonal antibody (MAb) that inhibits phorbol ester-stimulated leukocytes aggregation. Staining of frozen sections and immunofluorescence flow cytometry showed intercellular adhesion molecule-1 (ICAM-1) is expressed on non-hematopoietic cells such as vascular endothelial cells, thymic epithelial cells, certain other epithelial cells, and fibroblasts, and on hematopoietic cells such as tissue macrophages, mitogen-stimulated T lymphocyte blasts, and germinal center dendritic cells in tonsils, lymph nodes, and Peyer's patches. ICAM-1 staining on vascular endothelial cells is most intense in T cell areas in lymph nodes and tonsils showing reactive hyperplasia. ICAM-1 is expressed in low amounts on peripheral blood leukocytes. Phorbol ester-stimulated differentiation of myelomonocytic cell lines greatly increases ICAM-1 expression. ICAM-1 expression on dermal fibroblasts is increased threefold to fivefold by either interleukin 1 (IL 1) or interferon- $\gamma$ . at 10 U/ml over a period of 4 or 10 h, respectively. The induction is dependent on protein and mRNA synthesis and is reversible. ICAM-1 displays Mr heterogeneity in different cell types with a Mr of 97,000 on fibroblasts, 114,000 on the myelomonocytic cell line U937, and 90,000 on the B lymphoblastoid cell JY. ICAM-1 biosynthesis involves a Mr .apprx. 73,000 intracellular precursor. The non-N-glycosylated form resulting from tunicamycin treatment has a Mr of 55,000. ICAM-1 isolated from phorbol myristic acetate (PMA) stimulated U937 and from fibroblasts yields an identical major product of Mr = 60,000 after chemical deglycosylation. ICAM-1 MAb interferes with the adhesion of phytohemagglutinin blasts, and the adhesion of the cell line SKW3 to human dermal fibroblast cell layers. Pretreatment of fibroblasts but not lymphocytes with ICAM-1 MAb, and of lymphocytes but not fibroblasts with lymphocyte function-associated antigen 1 MAb inhibits adhesion. Intercellular adhesion is increased by prior exposure of fibroblasts to IL 1, and correlates with induction of ICAM-1.

5/7/22 (Item 1 from file: 73)  
DIALOG(R)File 73:EMBASE

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6215112 EMBASE No: 86210175

A human **%%intercellular%%** **%%adhesion%%** **%%molecule%%** (ICAM-1) distinct from LFA-1

Rothlein R.; Dustin M.L.; Marlin S.D.; Springer T.A.

Laboratory of Membrane Immunochemistry, Dana-Farber Cancer Institute, Boston, MA 02115 USA

J. IMMUNOL. (USA) , 1986, 137/4 (1270-1274)

CODEN: JOIMA

LANGUAGES: ENGLISH

Homotypic adhesion by phorbol ester-stimulated lymphocytes requires LFA-1 and Mgsup +sup 2 and does not involve like-like interactions between LFA-1 molecules of adjacent cells. The latter finding suggested that a second molecule, distinct from LFA-1, also participates in LFA-1-dependent adhesion. The identification of such a molecule was the object of this investigation. After immunization with LFA-1-deficient EBV-transformed lymphoblastoid cells, a MAb was obtained that inhibits phorbol ester-stimulated aggregation of LFA-1sup + EBV lines. This MAb defines a novel cell surface molecule, which is designated **%%intercellular%%** **%%adhesion%%** **%%molecule%%** 1 (ICAM-1). ICAM-1 is distinct from LFA-1 in both cell distribution and structure. In SDS-PAGE, ICAM-1 isolated from JY cells is a single chain of M(r) = 90,000. As shown by MAb inhibition, ICAM-1 participates in phorbol ester-stimulation adhesion reactions of B lymphocyte and myeloid cell lines and T lymphocyte blast. However, aggregation of one T lymphocyte cell line (SKW-3) was inhibited by LFA-1 but not ICAM-1 MAb. It is proposed that ICAM-1 may be a ligant in many, but not all, LFA-1-dependent adhesion reactions.

5/7/23 (Item 2 from file: 73)

DIALOG(R)File 73:EMBASE

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6184297 EMBASE No: 86179357

Induction by IL 1 and interferon-gamma: Tissue distribution, biochemistry, and function of a natural adherence molecule (ICAM-1)

Dustin M.L.; Rothlein R.; Bhan A.K.; et al.

Laboratory of Membrane Immunochemistry, Dana-Farber Cancer Institute, Boston, MA USA

J. IMMUNOL. (USA) , 1986, 137/1 (245-254)

CODEN: JOIMA

LANGUAGES: ENGLISH

ICAM-1 is a cell surface glycoprotein originally defined by a monoclonal antibody (MAb) that inhibits phorbol ester-stimulated leukocyte aggregation. Staining of frozen sections and immunofluorescence flow cytometry showed **%%intercellular%%** **%%adhesion%%** **%%molecule%%** -1 (ICAM-1) is expressed on non-hematopoietic cells such as vascular endothelial cells, thymic epithelial cells, certain other epithelial cells, and fibroblasts, and on hematopoietic cells such as tissue macrophages, mitogen-stimulated T lymphocyte blasts, and germinal center dendritic cells in tonsils, lymph nodes, and Peyer's patches, ICAM-1 staining on vascular endothelial cells is most intense in T cell areas in lymph nodes and tonsils showing reactive hyperplasia. ICAM-1 is expressed in low amounts on peripheral blood leukocytes. Phorbol ester-stimulated differentiation of myelomonocytic cell lines greatly increases ICAM-1 expression. ICAM-1 expression on dermal fibroblasts is increased to fivefold by either interleukin 1 (IL 1) or interferon-gamma at 10 U/ml over a period of 4 or 10 hr, respectively. The induction is dependent on protein and mRNA synthesis and is reversible. ICAM-1 displays M(r) heterogeneity in different cell types with a M(r) of 97,000 on fibroblasts, 114,000 on the myelomonocytic cell line U937, and 90,000 on the B lymphoblastoid cell JY. ICAM-1 biosynthesis involves a M(r) approx.73,000 intracellular precursor.

The non-N-glycosylated form resulting from tunicamycin treatment has a M(r) of 55,000. ICAM-1 isolated from phorbol myristic acetate (PMA) stimulated U937 and from fibroblasts yields an identical major product of M(r) = 60,000 after chemical deglycosylation, ICAM-1 MAb interferes with the adhesion of phytohemagglutinin blasts, and the adhesion of the cell line SKW3 to human dermal fibroblast cell layers. Pretreatment of fibroblasts but not lymphocytes with ICAM-1 MAb, and of lymphocytes but not fibroblasts with lymphocyte function-associated antigen 1 MAb inhibits adhesion. Intercellular adhesion is increased by prior exposure of fibroblasts to IL 1, and correlates with induction of ICAM-1.

5/7/24 (Item 1 from file: 76)  
DIALOG(R)File 76:Life Sciences Collection  
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01735123 3031268

Induction of adhesiveness in human endothelial cells by Plasmodium falciparum -infected erythrocytes.

Udeinya, I.J.; Akogyeram, C.O.

Dep. Anesthesiol., Howard Univ. Coll. Med., Washington, DC 20059, USA

AM. J. TROP. MED. HYG. vol. 48, no. 4, pp. 488-495

ISSN: 0002-9637

DOCUMENT TYPE: Journal article LANGUAGE: ENGLISH

SUBFILE: Microbiology Abstracts Section C: Algology, Mycology and Protozoology

Cytoadhesion of infected erythrocytes to endothelium plays an important role in the pathogenesis of Plasmodium falciparum malaria. In vitro assays of cytoadhesion have helped to identify putative host ligands, namely thrombospondin, platelet glycoprotein IV (CD36), and intercellular adhesion molecule-1 (CD54) as possible mediators of cytoadhesion. The presence of these ligands on some host cells to which infected erythrocytes do not adhere raises the possibility that other molecules or factors may be involved. In the present study, we investigated the effects of prolonged incubation of endothelial cells (EC) with infected erythrocytes on adhesiveness of EC. We also studied the effects of tumor necrosis factor (TNF), interleukin-1 (IL-1), and phorbol myristate acetate (PMA). When EC were incubated in contact with ring-infected erythrocytes for 24 hr during which the rings developed into trophozoites, adhesiveness was enhanced up to 250%. Incubation of EC with IL-1 or TNF for 12 hr increased adhesiveness by 50% at minimum doses of 5 U/ml and 50 U/ml, respectively, while PMA decreased adhesiveness in a consistent and dose-dependent manner. Host EC adhesive ligands for infected erythrocytes can be induced, most notably by direct contact between the EC and infected erythrocytes containing developing parasites. The cultured human EC used in this study lacked surface CD36 detectable by immunofluorescence assay, suggesting that CD36 is not required for endothelial adhesiveness.

5/7/25 (Item 1 from file: 94)  
DIALOG(R)File 94:JICST-EPlus  
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00194062 JICST ACCESSION NUMBER: 85A0491701 FILE SEGMENT: JICST-E  
Function and specificity of intercellular adhesion molecules.

SHIRAYOSHI YASUAKI (1)

(1) Kyoto Univ., Faculty of Science

Saibo Kogaku(Cell Technology), 1985, VOL.4,NO.6, PAGE.442-451, FIG.5, TBL.2, REF.40

JOURNAL NUMBER: Y0229AAZ ISSN NO: 0287-3796

UNIVERSAL DECIMAL CLASSIFICATION: 577.1:576.4 591.3.05 547.96:541.69

LANGUAGE: Japanese                      COUNTRY OF PUBLICATION: Japan  
DOCUMENT TYPE: Journal  
ARTICLE TYPE: Review article

5/7/26            (Item 1 from file: 155)  
DIALOG(R)File 155:MEDLINE(R)  
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05305461        88224464

Effects of tumour necrosis factor and related cytokines on vascular endothelial cells.

Pober JS

Department of Pathology, Brigham and Women's Hospital, Boston, Massachusetts.

Ciba Found Symp (NETHERLANDS)    1987,    131 p170-84,    ISSN 0300-5208  
Journal Code: D7X

Contract/Grant No.: HL-36003, HL, NHLBI; HL-22602, HL, NHLBI

Languages: ENGLISH

Document type: JOURNAL ARTICLE; REVIEW; REVIEW, TUTORIAL

Tumour necrosis factor (TNF) and related cytokines have been found to alter the phenotype of vascular endothelial cells so as to promote coagulation, inflammation and immunity. We have used recombinant human TNF, lymphotoxin (LT), interleukin 1 alpha (IL-1 alpha) and interleukin 1 beta (IL-1 beta) to study and compare the effects of these molecules on cultured human endothelial cells (HEC). All four mediators cause HEC monolayers to reorganize from an epithelioid to a fibroblastoid morphology. Reorganization is slow (days), reversible upon cytokine withdrawal and enhanced by co-addition of immune interferon. Coincident with morphological change, TNF and LT (but not IL-1 alpha or IL-1 beta) cause a marked increase in HLA-A, B mRNA and antigen expression. TNF and LT also induce a slow increase in the mRNA levels and cell-surface expression of IL-1 species. All four cytokines have been reported to enhance HEC adhesiveness for lymphocytes and inflammatory leucocytes; these changes temporally coincide with a rapid (hours) and sustained increase in expression of %intercellular% %adhesion% %molecule% 1 (ICAM-1), and with a rapid but transient de novo expression of an endothelial-leucocyte adhesion molecule (detected by antibody H4/18), respectively. TNF and LT induce reciprocal tachyphylaxis for the reinduction of H4/18 binding but do not inhibit induction by IL-1 alpha and IL-1 beta; similarly, IL-1 alpha and IL-1 beta induce reciprocal tachyphylaxis but do not inhibit TNF or LT. We have used the binding of H4/18 to explore the mechanism of action of TNF. Tumour-promoting phorbol esters, but not agents which increase cytoplasmic calcium concentrations, were found to induce binding, suggesting a possible involvement of the protein kinase C pathway in the response of HEC to TNF. Cells pretreated for 24 hours with phorbol esters cannot be reinduced to express H4/18 binding by phorbol esters yet retain full responsiveness to TNF. Thus TNF also appears to act on HEC through a pathway independent of protein kinase C activation. Collectively, these effects of TNF and related cytokines may be understood as examples of endothelial cell activation. (45 Refs.)

5/7/27            (Item 1 from file: 375)  
DIALOG(R)File 375:Derwent Drug Registry  
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0027469

Derwent Registry Name: INTERADM1

Preferred Drug Name: INTERCELLULAR-ADHESION-MOLECULE-1

5/7/28            (Item 1 from file: 377)

DIALOG(R)File 377:Derwent Drug File  
(c) 1998 Derwent Info Ltd. All rts. reserv.

00354460 DERWENT ACCESSION NUMBER: 89-47813  
Intercellular Adhesion Molecule 1 on Liver Allografts  
During Rejection.  
Adams D H; Shaw J; Hubscher s G; Rothlein R; Neuberger J M  
Boehr. Ingelheim  
Lancet 1989, II, No. 8672, 1122-24, Publication year not available

ABSTRACT:

In 50 liver transplant recipients who received immunosuppression with prednisolone, azothioprine and ciclosporin, and who received either p.o. prednisolone or i.v. methylprednisolone for acute rejection, and those patients with resolving rejection, intercellular adhesion molecule 1 (ICAM-1) expression was greatly reduced after the high-dose corticosteroid treatment. ICAM-1 expression was greater on bile-ducts, endothelium and perivenular hepatocytes. The reduction of ICAM-1 expression seen after successful treatment with high-dose corticosteroids suggests that this might be an important mode of action of these drugs.

5/7/29 (Item 1 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

78068402 CA: 78(11)68402y DISSERTATION  
Possible assay for intercellular adhesion molecules  
AUTHOR(S): Rosen, Steven David  
LOCATION: Cornell Univ., Ithaca, N. Y.  
DATE: 1972 PAGES: 137 pp. CODEN: DABSAQ LANGUAGE: English CITATION:  
Diss. Abstr. Int. B 1972, 33(4), 1388 AVAIL: Univ. Microfilms, Ann Arbor,  
Mich., Order No. 72-27,973

SECTION:  
CA906003 General Biochemistry  
IDENTIFIERS: adhesion mol intracellular, agglutination factor adhesion  
mol

DESCRIPTORS:  
Cell...  
adhesion of, protein factor in  
Proteins...  
for biological cell adhesion  
? s human(w)rhinovirus(w)receptor not py>1988

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21290543 HUMAN  
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2528246 RECEPTOR  
0 HUMAN(W) RHINORVIRUS(W) RECEPTOR  
48085878 PY>1988  
S6 0 HUMAN(W) RHINORVIRUS(W) RECEPTOR NOT PY>1988  
? s hrrp and rhinovirus

10809 RHINOVIRUS  
S7 0 HRRP AND RHINOVIRUS  
? s human(w)rhinovirus(w)receptor?

Processing

Processed 10 of 33 files ...

Processing

Processed 20 of 33 files ...

Completed processing all files

21290543 HUMAN

10809 RHINOVIRUS

3149625 RECEPTOR?

S8 58 HUMAN(W) RHINOVIRUS (W) RECEPTOR?

? rd s8

>>>Duplicate detection is not supported for File 307.

>>>Duplicate detection is not supported for File 337.

>>>Duplicate detection is not supported for File 340.

>>>Duplicate detection is not supported for File 348.

>>>Duplicate detection is not supported for File 351.

>>>Duplicate detection is not supported for File 375.

>>>Duplicate detection is not supported for File 456.

>>>Records from unsupported files will be retained in the RD set.

...examined 50 records (50)

...completed examining records

S9 44 RD S8 (unique items)

? s s9 not py>1992

Processed 10 of 33 files ...

Processing

>>>One or more prefixes are unsupported

>>> or undefined in one or more files.

Processed 20 of 33 files ...

Processing

Processed 30 of 33 files ...

Completed processing all files

44 S9

30397237 PY>1992

S10 19 S9 NOT PY>1992

? t s10/7/1-19

>>>Format 7 is not valid in file 143

10/7/1 (Item 1 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
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07171113 BIOSIS NO.: 000039085467

IDENTIFICATION OF THE MAJOR %%%HUMAN%%% %%%RHINOVIRUS%%% %%%RECEPTOR%%%  
REVEALS IDENTITY WITH INTERCELLULAR ADHESION MOLECULE 1

AUTHOR: MCCLELLAND A; GREVE J M

AUTHOR ADDRESS: MOL. THERAPEUTICS INC., MILES RES. CENT., 400 MORGAN LANE,  
WEST HAVEN, CONN. 06516.

JOURNAL: BRINTON, M. A. AND F. X. HEINZ (ED.). NEW ASPECTS OF  
POSITIVE-STRAND RNA VIRUSES; SECOND INTERNATIONAL SYMPOSIUM, VIENNA,  
AUSTRIA, JUNE 1989; XXI+383P. AMERICAN SOCIETY FOR MICROBIOLOGY:  
WASHINGTON, D.C., USA. ILLUS. MAPS. ISBN 1-55581-022-5. 0 (0). 1990.  
262-267.

CODEN: 30692

RECORD TYPE: Citation

LANGUAGE: ENGLISH

10/7/2 (Item 2 from file: 5)  
DIALOG(R)File 5:BIOSIS PREVIEWS(R)  
(c) 1998 BIOSIS. All rts. reserv.

06672971 BIOSIS NO.: 000087115148  
THE MAJOR %%%HUMAN%%% %%%RHINOVIRUS%%% %%%RECEPTOR%%% IS ICAM-1

AUTHOR: GREVE J M; DAVIS G; MEYER A M; FORTE C P; YOST S C; MARLOR C W;  
KAMARCK M E; MCCLELLAND A  
AUTHOR ADDRESS: MOL. THERAPEUTICS INC., MILES RES. CENT., 400 MORGAN LANE,  
WEST HAVEN, CONN. 06516.

JOURNAL: CELL 56 (5). 1989 / 839-848.  
FULL JOURNAL NAME: Cell  
CODEN: CELLB  
RECORD TYPE: Abstract  
LANGUAGE: ENGLISH

ABSTRACT: The major %%%human%%% %%%rhinovirus%%% %%%receptor%%% has been identified with monoclonal antibodies that inhibit rhinovirus infection. These monoclonal antibodies recognize a 95 kd cell surface glycoprotein on human cells and on mouse transfectants expressing a rhinovirus binding phenotype. Purified 95 kd protein binds to rhinovirus in vitro. Protein sequence from the 95 kd protein showed an identity with that of intercellular adhesion molecule-1 (ICAM-1); a cDNA clone obtained from mouse transfectants expressing the rhinovirus receptor had essentially the same sequence as ICAM-1. Thus, the major %%%human%%% %%%rhinovirus%%% %%%receptor%%% is ICAM-1. The gene for this receptor maps to human chromosome 19, which also contains the genes for a number of other picornavirus receptors.

10/7/3 (Item 1 from file: 73)  
DIALOG(R)File 73:EMBASE  
(c) 1998 Elsevier Science B.V. All rts. reserv.

7089920 EMBASE No: 88088719  
Characteristics of the minor group receptor of human retroviruses  
Mischak H.; Neubauer C.; Kuechler E.; Blaas D.  
Institut fur Biochemie, 1090 Wien Austria  
VIROLOGY (USA) , 1988, 163/1 (19-25)  
CODEN: VIRLA ISSN: 0042-6822  
LANGUAGES: English

The receptor for the minor group of human rhinoviruses was solubilized from HeLa cell membranes with various detergents. Virus binding activity was determined in a filter binding assay using 35S-labeled human rhinovirus 2 (HRV2) as a probe. The receptor protein was enriched on Lens culinaris lectin columns and the active fractions were further purified by gel permeation and anion exchange chromatography. The receptor has an apparent molecular weight of 450 kDa in the presence of detergent. The binding activity is sensitive to trypsin, sulfhydryl modifying agents, but insensitive to neuraminidase. Divalent cations are essential for virus binding.

10/7/4 (Item 1 from file: 144)  
DIALOG(R)File 144:Pascal  
(c) 1998 INIST/CNRS. All rts. reserv.

08793728 PASCAL No.: 89-0343029

BREVET. Transfectant cell lines which express the major %%%human%%%  
%%rhinovirus%%% %%receptor%%%  
MOLECULAR THERAPEUTICS INC  
Publication Date: 1989-06-14  
Availability: Institut national de la propriete industrielle (INPI,  
France)  
Patent: EP 0319815 A2 Patent Filing: 88119774.3, 1988-11-28  
Convention: US 130378, 1987-12-08 IPC: C 12N 5/00  
Document Type: B (Patent) ; M (Monographic)  
Country of Publication: Europe  
Language: English

10/7/5 (Item 1 from file: 348)  
DIALOG(R) File 348: European Patents  
(c) 1998 European Patent Office. All rts. reserv.

00465361

ORDER fax of complete patent from Dialog SourceOne. See HELP ORDER 348  
Multimeric form of %%%human%%% %%rhinovirus%%% %%receptor%%% protein.  
Multimere Formen des menschlichen Rhinovirus-Rezeptorproteins.  
Formes multimeriques du recepteur du rhinovirus humain.

PATENT ASSIGNEE:

MOLECULAR THERAPEUTICS INC., (768511), 400 Morgan Lane, West Haven, CT  
06516, (US), (applicant designated states:  
AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)

INVENTOR:

Greve, Jeffrey M., 64 Wildwood Drive, Branford, CT 06405, (US)  
McClelland, Alan, 300 Schoolhouse Road, Old Saybrook, CT 06475, (US)

LEGAL REPRESENTATIVE:

Danner, Klaus et al (51864), Bayer AG Konzernzentrale RP Patente Konzern,  
D-51368 Leverkusen, (DE)

PATENT (CC, No, Kind, Date): EP 468257 A1 920129 (Basic)

APPLICATION (CC, No, Date): EP 91111272 910706;

PRIORITY (CC, No, Date): US 556238 900720

DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; SE

INTERNATIONAL PATENT CLASS: C12N-015/12; C07K-014/705; A61K-038/17;

ABSTRACT EP 468257 A1

The present invention relates to novel forms and configurations of  
intercellular adhesion molecule (ICAM) including multimeric  
configurations that effectively bind to human rhinovirus and can  
effectively reduce HRV infectivity. When in a multimeric configuration,  
preferably as dimers, these proteins display enhanced binding of HRV and  
are able to reduce HRV infectivity as well as the infectivity of other  
viruses known to bind to the "major" group %%%human%%% %%rhinovirus%%%  
%%receptor%%% (HRR). The multimerized proteins may also be used to block  
tICAM interaction with lymphocyte function-associated antigen-1 (LFA-1).

ABSTRACT WORD COUNT: 88

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 920129 A1 Published application (A1with Search Report  
;A2without Search Report)  
Examination: 920513 A1 Date of filing of request for examination:  
920318  
Change: 921223 A1 Representative (change)  
\*Assignee: 921223 A1 Applicant (transfer of rights) (change): MILES  
INC. (923417) One Mellon Center 500 Grant Str.  
Pittsburgh, PA 15219-2502 (US) (applicant  
designated states:  
AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)  
Change: 930303 A1 Representative (change)  
Examination: 940907 A1 Date of despatch of first examination report:  
940720

Change: 950628 A1 Representative (change)  
 \*Assignee: 950628 A1 Applicant (transfer of rights) (change): Bayer Corporation (923415) One Mellon Center 500 Grant Street Pittsburgh, PA 15219-2502 (US) (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)  
 \*Assignee: 950628 A1 Previous applicant in case of transfer of rights (change): MILES INC. (923417) One Mellon Center 500 Grant St. Pittsburgh, PA 15219-2502 (US) (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)  
 \*Assignee: 950712 A1 Applicant (transfer of rights) (change): MILES INC. (923417) One Mellon Center 500 Grant St. Pittsburgh, PA 15219-2502 (US) (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)  
 \*Assignee: 950719 A1 Applicant (transfer of rights) (change): Bayer Corporation (923415) One Mellon Center 500 Grant Street Pittsburgh, PA 15219-2502 (US) (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)  
 \*Assignee: 950719 A1 Previous applicant in case of transfer of rights (change): MILES INC. (923417) One Mellon Center 500 Grant St. Pittsburgh, PA 15219-2502 (US) (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)  
 \*Assignee: 971001 A1 Applicant (transfer of rights) (change): Bayer Corporation (923419) 100 Bayer Road Pittsburgh, PA 15205 (US) (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)  
 \*Assignee: 971001 A1 Previous applicant in case of transfer of rights (change): Bayer Corporation (923415) One Mellon Center 500 Grant Street Pittsburgh, PA 15219-2502 (US) (applicant designated states: AT;BE;CH;DE;DK;ES;FR;GB;GR;IT;LI;LU;NL;SE)  
 Change: 980617 A1 International patent classification (change)  
 Change: 980617 A1 Obligatory supplementary classification (change)  
 Change: 980624 A1 International patent classification (change)  
 Change: 980624 A1 Obligatory supplementary classification (change)

LANGUAGE (Publication,Procedural,Application): English; English; English  
 FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	806
SPEC A	(English)	EPABF1	7722
Total word count - document A			8528
Total word count - document B			0
Total word count - documents A + B			8528

CLAIMS EP 468257 A1

1. Multimeric ICAM.
2. The multimeric ICAM of claim 1 wherein said ICAM is non-transmembrane ICAM.
3. The multimeric ICAM of claim 2 wherein said non-transmembrane ICAM is substantially without the carboxyl intracellular domain and without the hydrophobic membrane domain.
4. The multimeric ICAM according to claim 2 wherein said non-transmembrane ICAM is a member selected from the group consisting of tICAM(453) and tICAM(184).
5. The multimeric ICAM of claim 1 wherein said ICAM is multimerized by adsorption to a support.
6. The multimeric ICAM of claim 5 wherein said support is an inert

- polymer and is a member selected from the group consisting of nitrocellulose, PVDF, DEAE, lipid polymer, and amino dextran.
7. The multimeric ICAM of claim 1 wherein said multimeric ICAM is multimerized by coupling to a member.
  8. The multimeric ICAM of claim 7 wherein said ICAM is modified at either termini.
  9. The multimeric ICAM of claim 8 wherein said ICAM is modified at the carboxyl terminus.
  10. The multimeric ICAM of claim 8 wherein said ICAM is modified at the carboxyl terminus to comprise a reactive amino acid residue.
  11. The multimeric ICAM of claim 10 wherein said reactive amino acid is a member selected from the group consisting of lysine and cysteine.
  12. The multimeric ICAM of claim 8 wherein said ICAM is modified at the amino end.
  13. The multimeric ICAM of claim 8 wherein said ICAM is modified at the amino end to comprise a reactive amino acid residue.
  14. The multimeric ICAM of claim 13 wherein said reactive amino acid is a member selected from the group consisting of lysine and cysteine.
  15. The multimeric ICAM of claim 8 wherein said ICAM is modified at either terminus to comprise a lipid capable of promoting formation of oligomer micelles.
  16. The multimeric ICAM of claim 7 wherein said member is a member selected from the group consisting of an antibody, a protein carrier, and a cross-linking reagent.
  17. The multimeric ICAM of claim 16 wherein said antibody is anti-ICAM antibody CL 203.
  18. The multimeric ICAM of claim 16 wherein said cross-linking agent is selected from the group consisting of heterobifunctional and homobifunctional cross-linking reagents.
  19. The multimeric ICAM of claim 18 wherein said cross-linking reagent is a member selected from the group consisting of bifunctional N-hydroxysuccinimide esters, imidoesters and bis-maleimido-hexanes.
  20. The multimeric ICAM of claim 7 wherein said protein carrier is a member selected from the group consisting of albumin and proteoglycans.
  21. The multimeric ICAM of claim 1 wherein said ICAM is a member selected from the group consisting of fully glycosylated ICAM, partially glycosylated ICAM, or non-glycosylated ICAM.
  22. A method for enhancing the binding of non-transmembrane ICAM to a ligand, the improvement comprising the steps of:  
    presenting said non-transmembrane ICAM in a form and configuration to said ligand wherein binding of said non-transmembrane ICAM to said ligand is enhanced.
  23. The method according to claim 22 wherein said non-transmembrane ICAM is ICAM substantially without the carboxyl intracellular domain and without the hydrophobic membrane domain.
  24. The method according to claim 23 wherein said non-transmembrane ICAM is a member selected from the group consisting of tICAM(453) and tICAM(185).
  25. The method according to claim 22 wherein said ICAM is in a multimeric configuration.
  26. The method according to claim 22 wherein said ICAM is modified at either the carboxyl terminus or the amino terminus and wherein multimeric ICAM formation is enhanced.
  27. The method according to claim 26 wherein said modification comprises the addition of lysine at the carboxyl terminus.
  28. The method according to claim 26 wherein said modification comprises the addition of free cysteine at the carboxyl terminus.
  29. The method according to claim 25 wherein said multimeric configuration comprises dimeric.
  30. The method according to claim 25 wherein said multimeric configuration comprises a first ICAM cross-linked to a second ICAM.
  31. The method according to claim 25 wherein said multimeric

- configuration comprises ICAM adsorbed to a support to generate a multimeric configuration.
32. The method according to claim 31 wherein said support comprises a member selected from the group consisting of high molecular weight and substantially inert polymers.
  33. The method according to claim 32 wherein said polymer is an inert polymer and is a member selected from the group consisting of nitrocellulose, PVDF, DEAE, lipid polymers, and amino dextran.
  34. The method according to claim 32 wherein said multimeric ICAM is multimerized by coupling to a member.
  35. The method according to claim 34 wherein said member is a member selected from the group consisting of an antibody, a protein carrier, and a cross-linking reagent.
  36. The method according to claim 35 wherein said cross-linking reagent is a member selected from the group consisting of heterobifunctional and homobifunctional cross-linking reagents.
  37. The method according to claim 32 wherein said protein carrier is a member selected from the group consisting of albumin and proteoglycans.
  38. The method according to claim 37 wherein said antibody is anti-ICAM antibody CL 203.
  39. The method according to claim 22, wherein said ligand is a member selected from the group consisting of human rhinovirus, major group receptor virus, lymphocyte-associated antigen-1 (LFA-1) and plasmodium falciparum.
  40. A pharmaceutical composition comprising a pharmaceutically acceptable solvent, diluent, adjuvant or a carrier, and, as the active ingredient, an effective amount of a polypeptide according to claim 1.

10/7/6 (Item 2 from file: 348)  
DIALOG(R) File 348:European Patents  
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00349116

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A %%%human%%% %%%rhinovirus%%% %%%receptor%%% protein that inhibits virus infectivity.

Menschliches Rhinovirusrezeptorprotein, das die Virusinfektionsanfälligkeit hemmt.

Proteine du recepteur du rhinovirus humain, qui inhibe le caractere infectieux du virus.

PATENT ASSIGNEE:

Molecular Therapeutics, Inc., (768510), 400 Morgan Lane, West Haven, Connecticut 06516, (US), (applicant designated states: AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)

INVENTOR:

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McClelland, Alan, Dr., 300 Schoolhouse Road, Old Saybrook, CT 06475, (US)  
Davis, Gary, 42 Holbrook Street, Milford, CT 06460, (US)

LEGAL REPRESENTATIVE:

Danner, Klaus et al (51864), Bayer AG Konzernzentrale RP Patente Konzern, D-51368 Leverkusen, (DE)

PATENT (CC, No, Kind, Date): EP 362531 A1 900411 (Basic)

APPLICATION (CC, No, Date): EP 89115358 890819;

PRIORITY (CC, No, Date): US 239571 880901; US 262428 881025; US 390662 890810

DESIGNATED STATES: AT; BE; CH; DE; ES; FR; GB; GR; IT; LI; LU; NL; SE

INTERNATIONAL PATENT CLASS: C07K-014/705; A61K-038/16; C12P-021/00;

CITED PATENTS (EP A): EP 169146 A; EP 289949 A; EP 319815 A

ABSTRACT EP 362531 A1

A water soluble human rhinovirus (HRV) major receptor preparation comprising detergent-complexed glycoprotein isolated from animal cells, preferably mammalian cells, that express the HRV major receptor and which exhibits the ability to bind to HRV capsids to substantially reduce infectivity of the virus. The purified, water soluble receptor is obtained by extracting cells expressing the receptor with detergent and isolating the solubilized detergent-glycoprotein complexes by binding to monoclonal antibody selective for the HRV receptor protein.

ABSTRACT WORD COUNT: 78

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application: 900411 A1 Published application (A1with Search Report  
;A2without Search Report)

Examination: 900411 A1 Date of filing of request for examination:  
890819

Examination: 920401 A1 Date of despatch of first examination report:  
920218

Change: 920603 A1 Representative (change)

\*Assignee: 920603 A1 Applicant (transfer of rights) (change): MILES  
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Pittsburgh, PA 15219-2502 (US) (applicant  
designated states:  
AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)

Change: 930303 A1 Representative (change)

Change: 950628 A1 Representative (change)

\*Assignee: 950628 A1 Applicant (transfer of rights) (change): Bayer  
Corporation (923415) One Mellon Center 500  
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(applicant designated states:  
AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)

\*Assignee: 950628 A1 Previous applicant in case of transfer of  
rights (change): MILES INC. (923417) One Mellon  
Center 500 Grant St. Pittsburgh, PA 15219-2502  
(US) (applicant designated states:  
AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)

\*Assignee: 950712 A1 Applicant (transfer of rights) (change): MILES  
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Pittsburgh, PA 15219-2502 (US) (applicant  
designated states:  
AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)

\*Assignee: 950719 A1 Applicant (transfer of rights) (change): Bayer  
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Grant Street Pittsburgh, PA 15219-2502 (US)  
(applicant designated states:  
AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)

\*Assignee: 950719 A1 Previous applicant in case of transfer of  
rights (change): MILES INC. (923417) One Mellon  
Center 500 Grant St. Pittsburgh, PA 15219-2502  
(US) (applicant designated states:  
AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)

\*Assignee: 971001 A1 Applicant (transfer of rights) (change): Bayer  
Corporation (923419) 100 Bayer Road Pittsburgh,  
PA 15205 (US) (applicant designated states:  
AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)

\*Assignee: 971001 A1 Previous applicant in case of transfer of  
rights (change): Bayer Corporation (923415) One  
Mellon Center 500 Grant Street Pittsburgh, PA  
15219-2502 (US) (applicant designated states:  
AT;BE;CH;DE;ES;FR;GB;GR;IT;LI;LU;NL;SE)

Change: 980624 A1 International patent classification (change)

Change: 980624 A1 Obligatory supplementary classification  
(change)

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	332
SPEC A	(English)	EPABF1	6289
Total word count - document A			6621
Total word count - document B			0
Total word count - documents A + B			6621

CLAIMS EP 362531 A1

1. A water soluble human rhinovirus (HRV) major receptor preparation comprising detergent-complexed glycoprotein isolated from animal cells that express the HRV major receptor and which exhibits the ability to bind to HRV capsids and substantially reduce infectivity of the virus.
2. The preparation of claim 1 isolated from mammalian cells that express the HRV major receptor.
3. The preparation of any of claims 1 and 2 wherein the glycoprotein has an apparent molecular weight of about 95,000 daltons or less.
4. The preparation of any of claims 1 to 3 obtained by detergent extraction of HeLa cells.
5. The preparation of any of claims 1 to 4 obtained by detergent extraction of nonhuman transfectant cells expressing the HRV major receptor.
6. A %%%human%%% %%%rhinovirus%%% %%%receptor%%% protein selected from the group consisting of biologically active receptor protein fragments, functional domains and analogs thereof which exhibits the ability to bind to human rhinovirus capsid of the major receptor class and inhibits infectivity of the virus.
7. A method for obtaining a water soluble human rhinovirus (HRV) major receptor preparation according to any one of the claims 1 to 5 comprising the steps of:
  - a) extracting animal cells that express the HRV major receptor with a nonionic detergent,
  - b) binding resulting detergent-glycoprotein complexes with an antibody selective for binding to HRV receptor protein,
  - c) separating the complexes bound to the antibody from the mixture,
  - d) dissociating the detergent-HRV glycopeptide complexes from the antibody, and
  - e) isolating the resulting water soluble preparation of HRV major receptor.
8. The method of claim 7 wherein detergent-glycoprotein complexes solubilized from the mamalian cells in step a) are adsorbed to a lectin capable of binding HRV major receptor protein, separated the complexes adsorbed to the lectin from the mixture, and the detergent-HRV glycoprotein complexes dissociated from the lectin are applied to the antibody of step b).
9. A pharmaceutical composition for use in the treatment of human rhinovirus which comprises an effective amount of the protein of Claim 6 in admixture with a pharmaceutically acceptable recipient.
10. Use of protein of Claim 6 in the treatment of human rhinovirus.

10/7/7 (Item 1 from file: 399)  
 DIALOG(R)File 399:CA SEARCH(R)  
 (c) 1998 American Chemical Society. All rts. reserv.

117229665 CA: 117(23)229665c JOURNAL  
 Molecular interactions between human rhinoviruses and their cellular receptors  
 AUTHOR(S): Colonno, Richard J.  
 LOCATION: Dep. Virol., Bristol-Myers Squibb Pharmaceut. Res. Inst.,  
 Princeton, NJ, 08543-4000, USA

JOURNAL: Semin. Virol. DATE: 1992 VOLUME: 3 NUMBER: 2 PAGES: 101-7  
CODEN: SEVIEL ISSN: 1044-5773 LANGUAGE: English  
SECTION:

CA210000 Microbial Biochemistry

IDENTIFIERS: review human rhinovirus receptor, virus rhino human receptor  
review

DESCRIPTORS:

Virus, animal, human rhino-...

cellular receptors mol. interactions with

Receptors...

human rhinoviruses mol. interaction with cellular

10/7/8 (Item 2 from file: 399)

DIALOG(R) File 399: CA SEARCH(R)

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116166233 CA: 116(17)166233s PATENT

Multimeric form of human rhinovirus receptor protein and their use in  
decreasing infectivity of rhinovirus

INVENTOR(AUTHOR): Greve, Jeffrey M.; McClelland, Alan

LOCATION: USA

ASSIGNEE: Molecular Therapeutics, Inc.

PATENT: European Pat. Appl. ; EP 468257 A1 DATE: 920129

APPLICATION: EP 91111272 (910706) \*US 556238 (900720)

PAGES: 17 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C12N-015/12A;  
C07K-013/00B; A61K-037/02B DESIGNATED COUNTRIES: AT; BE; CH; DE; DK; ES;  
FR; GB; GR; IT; LI; LU; NL; SE

SECTION:

CA201005 Pharmacology

CA203XXX Biochemical Genetics

IDENTIFIERS: rhinovirus human infectivity ICAM1 multimer, receptor human  
rhinovirus sol multimer

DESCRIPTORS:

Integrins, antigens LFA-1... Plasmodium falciparum... Virus, animal, human  
rhino-...

binding to sol. ICAM-1 of, enhancement of, multimerization in

Animal cell line, CHO...

expression in, of sol. ICAM-1 analog genes, prepn. of sol. ICAM-1  
multimers in relation to

Molecular cloning...

of sol. ICAM-1 analog genes, in CHO cells, prepn. of sol. ICAM-1  
multimers in relation to

Lipids, polymers...

sol. ICAM-1 adsorbed on, multimerization of, increased affinity for  
human rhinovirus in relation to

Albumins, biological studies... Proteoglycans, biological studies...

sol. ICAM-1 multimerization by coupling to, increased affinity for  
human rhinovirus in relation to

Antibodies... Crosslinking agents...

sol. ICAM-1 multimerization with, increased affinity for human  
rhinovirus in relation to

Glycoproteins, specific or class, ICAM-1 (intercellular adhesion mol. 1)...

sol., multimers, for decreasing infectivity of human rhinovirus

CAS REGISTRY NUMBERS:

52-90-4 56-87-1 biological studies, sol. ICAM-1 contg. carboxy terminal,  
for multimerization, increased affinity for human rhinovirus in  
relation to

100-37-8 9004-70-0 24937-79-9 37293-51-9 sol. ICAM-1 adsorbed on,  
multimerization of, increased affinity for human rhinovirus in relation  
to

10/7/9 (Item 3 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

115252003 CA: 115(23)252003c JOURNAL  
Mechanisms of receptor-mediated rhinovirus neutralization defined by two soluble forms of ICAM-1  
AUTHOR(S): Greve, Jeffrey M.; Forte, Carla P.; Marlor, Christopher W.; Meyer, Ann M.; Hoover-Litty, Helana; Wunderlich, David; McClelland, Alan  
LOCATION: Miles Res. Cent., Mol. Ther., Inc., West Haven, CT, 06516, USA  
JOURNAL: J. Virol. DATE: 1991 VOLUME: 65 NUMBER: 11 PAGES: 6015-23  
CODEN: JOVIAM ISSN: 0022-538X LANGUAGE: English  
SECTION:  
CA210006 Microbial Biochemistry  
CA214XXX Mammalian Pathological Biochemistry  
IDENTIFIERS: receptor mediated rhinovirus neutralization ICAM1  
DESCRIPTORS:  
Receptors...  
human rhinovirus neutralization mediated by, sol. ICAM-1 forms in study of  
Microbial virulence...  
of human rhinovirus, receptor-mediated diminution of, sol. ICAM-1 forms in study of  
Virus, animal, human rhino-...  
receptor-mediated neutralization of, sol. ICAM-1 forms in study of  
Glycoproteins, specific or class, ICAM-1 (intercellular adhesion mol. 1)...  
sol. forms of, in receptor-mediated human rhinovirus neutralization study

10/7/10 (Item 4 from file: 399)  
DIALOG(R)File 399:CA SEARCH(R)  
(c) 1998 American Chemical Society. All rts. reserv.

114020930 CA: 114(3)20930d PATENT  
A human rhinovirus receptor protein that inhibits virus infectivity  
INVENTOR(AUTHOR): Greve, Jeffrey; McClelland, Alan; Davis, Gary  
LOCATION: USA  
ASSIGNEE: Molecular Therapeutics, Inc.  
PATENT: European Pat. Appl. ; EP 362531 A1 DATE: 900411  
APPLICATION: EP 89115358 (890819) \*US 239571 (880901) \*US 262428 (881025)  
\*US 390662 (890810)  
PAGES: 15 pp. CODEN: EPXXDW LANGUAGE: English CLASS: C07K-013/00A;  
A61K-037/02B; C12P-021/00B DESIGNATED COUNTRIES: AT; BE; CH; DE; ES; FR;  
GB; GR; IT; LI; LU; NL; SE  
SECTION:  
CA210005 Microbial Biochemistry  
CA209XXX Biochemical Methods  
CA263XXX Pharmaceuticals  
IDENTIFIERS: ICAM1 sol human rhinovirus infection, receptor sol human rhinovirus  
DESCRIPTORS:  
Animal cell line, CHO... Animal cell line, L...  
expression in, of truncated water-sol. intercellular adhesion mol. 1  
Virus, animal, human rhino-...  
infection by, inhibition of, solubilized intercellular adhesion mol. 1 for  
HeLa cell...  
intercellular adhesion mol. 1 of, solubilization of, for inhibiting human rhinovirus infection  
Molecular cloning...  
of truncated water-sol. intercellular adhesion mol. 1 cDNAs, in mammalian cells

Protein sequences...

of water-sol. intercellular adhesion mol. 1 of human, complete  
Glycoproteins, specific or class, ICAM-1 (intercellular adhesion mol. 1)...  
solubilized, for inhibiting human rhinovirus infection

CAS REGISTRY NUMBERS:

131158-91-3 131159-42-7 131159-43-8 131159-44-9 amino acid sequence of  
and expression in mammalian cells of cDNA for

10/7/11 (Item 5 from file: 399)

DIALOG(R) File 399:CA SEARCH(R)

(c) 1998 American Chemical Society. All rts. reserv.

112196360 CA: 112(21)196360r JOURNAL

Production and properties of site-specific antibodies to synthetic  
peptide antigens related to potential cell surface receptor sites for  
rhinovirus

AUTHOR(S): McCray, J.; Werner, G.

LOCATION: Chicago, IL, 60620, USA

JOURNAL: Methods Enzymol. DATE: 1989 VOLUME: 178 NUMBER: Antibodies,  
Antigens, Mol. Mimicry PAGES: 676-92 CODEN: MENZAU ISSN: 0076-6879

LANGUAGE: English

SECTION:

CA215003 Immunochemistry

IDENTIFIERS: antibody human rhinovirus peptide, virus rhino human peptide  
antibody

DESCRIPTORS:

Receptors...

for human rhinovirus, synthetic peptide antigens related to, antibodies  
to, prepn. and properties of

Peptides, biological studies...

of human rhinovirus, antibodies to, prepn. and properties of

Antigens...

of human rhinovirus, site-specific antibodies to, prepn. and properties  
of

Virus, animal, human rhinovirus 14... Virus, animal, human rhino-...

Virus, animal, polio-...

peptide antigens of, site-specific antibodies to, prepn. and properties  
of

Antibodies...

to synthetic peptide antigens to human rhinovirus receptor sites,  
prepn. and properties of

CAS REGISTRY NUMBERS:

126813-95-4P of human rhinovirus to, site-specific antibodies to, prepn.  
and properties of

126813-94-3P of human rhinovirus 14, site-specific antibodies, prepn. and  
properties of

111234-23-2P 126813-93-2P of human rhinovirus 14, site-specific  
antibodies to, prepn. and properties of

126813-96-5P of human rhinovirus 89, site-specific antibodies to, prepn.  
and properties of

126813-97-6P of poliovirus type 1, site-specific antibodies to, prepn. and  
properties of

126813-98-7P of poliovirus type 3, site-specific antibodies to, prepn. and  
properties of

10/7/12 (Item 6 from file: 399)

DIALOG(R) File 399:CA SEARCH(R)

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112173265 CA: 112(19)173265z JOURNAL

cDNA cloning reveals that the major group rhinovirus receptor on HeLa

cells in intercellular adhesion molecule 1

AUTHOR(S): Tomassini, Joanne E.; Graham, Donald; DeWitt, Corrilie M.;  
Lineberger, Donald W.; Rodkey, John A.; Colonno, Richard J.

LOCATION: Dep. Virus Cell Biol., Merck Sharp and Dohme Res. Lab., West  
Point, PA, 19486, USA

JOURNAL: Proc. Natl. Acad. Sci. U. S. A. DATE: 1989 VOLUME: 86

NUMBER: 13 PAGES: 4907-11 CODEN: PNASA6 ISSN: 0027-8424 LANGUAGE:  
English

SECTION:

CA203003 Biochemical Genetics

CA206XXX General Biochemistry

CA213XXX Mammalian Biochemistry

CA214XXX Mammalian Pathological Biochemistry

IDENTIFIERS: human rhinovirus receptor gene sequence HeLa, adhesion mol  
ICAM cDNA sequence HeLa

DESCRIPTORS:

Gene and Genetic element, animal...

for glycoprotein ICAM-1, of HeLa cell, nucleotide and encoded peptide  
sequences of

Receptors...

for human rhinovirus, of HeLa cell, glycoprotein ICAM-1 identical with  
HeLa cell...

intercellular adhesion mol.-1 of, human rhinovirus receptor identical  
to

Protein sequences...

of glycoprotein ICAM-1 and precursor, of HeLa cell, complete

Deoxyribonucleic acid sequences, glycoprotein ICAM-1-specifying...

of HeLa cell, complete

Glycoproteins, specific or class, ICAM-1 (intercellular adhesion mol. 1)...

of HeLa cell, rhinovirus receptor identical to

Virus, animal, human rhino-...

receptor for, of HeLa cell, glycoprotein ICAM-1 identical with

CAS REGISTRY NUMBERS:

126547-90-8 amino acid sequence of

126547-89-5 amino acid sequence of

126547-37-3 nucleotide sequence of

10/7/13 (Item 7 from file: 399)

DIALOG(R) File 399:CA SEARCH(R)

(c) 1998 American Chemical Society. All rts. reserv.

112117175 CA: 112(13)117175h PATENT

Transfectant cell lines which express the major human rhinovirus  
receptor, their preparation, and their uses

INVENTOR(AUTHOR): McClelland, Alan; Meyer, Ann Marie; Greve, Jeffrey M.;  
Davis, Gary

LOCATION: USA

ASSIGNEE: Molecular Therapeutics, Inc.

PATENT: European Pat. Appl. ; EP 319815 A2 DATE: 890614

APPLICATION: EP 88119774 (881128) \*US 130378 (871208) \*US 262570 (881025)

PAGES: 15 pp. CODEN: EPXDXW LANGUAGE: English CLASS: C12N-005/00A;

C07K-015/06B; C12P-021/00B; C12N-015/00B; C01N-033/50B; A61K-039/265;

C12P-021/00J; C12R-001/91J DESIGNATED COUNTRIES: AT; BE; CH; DE; ES; FR;

GB; IT; LI; NL; SE

SECTION:

CA215001 Immunochemistry

CA203XXX Biochemical Genetics

CA209XXX Biochemical Methods

IDENTIFIERS: cell expression human rhinovirus major receptor,  
intercellular adhesion mol human rhinovirus receptor

DESCRIPTORS:

Ligands...

binding of, to major human rhinovirus receptor, candidate compd. effect on  
 Gene and Genetic element, animal...  
 for human rhinovirus major receptor, expression of  
 Receptors...  
 for human rhinovirus, mammalian cell line expressing and monoclonal antibody to  
 Antibodies... Peptides, biological studies...  
 ligand binding to major human rhinovirus receptor response to  
 Glycoproteins, specific or class, ICAM-1 (intercellular adhesion mol. 1)...  
 major human rhinovirus receptor, mammalian cell line expressing and monoclonal antibody to  
 Animal cell line...  
 major human rhinovirus receptor protein-expressing  
 Pharmaceutical analysis...  
 of candidate compds. effect on ligand binding to major human rhinovirus receptor protein.  
 Virus, animal, human rhino-...  
 receptor protein for, mammalian cell line expressing and monoclonal antibody to  
 Antibodies, monoclonal...  
 to major human rhinovirus receptor  
 Animal cell line, L-TK...  
 transfection of, with human DNA for prodn. of cell expressing major human rhinovirus receptor protein

10/7/14 (Item 8 from file: 399)  
 DIALOG(R) File 399:CA SEARCH(R)  
 (c) 1998 American Chemical Society. All rts. reserv.

110152396 CA: 110(17)152396m JOURNAL  
 A cell adhesion molecule, ICAM-1, is the major surface receptor for rhinoviruses  
 AUTHOR(S): Staunton, Donald E.; Merluzzi, Vincent J.; Rothlein, Robert; Barton, Randall; Marlin, Steven D.; Springer, Timothy A.  
 LOCATION: Cent. Blood Res., Harvard Med. Sch., Boston, MA, 02115, USA  
 JOURNAL: Cell (Cambridge, Mass.) DATE: 1989 VOLUME: 56 NUMBER: 5  
 PAGES: 849-53 CODEN: CELLB5 ISSN: 0092-8674 LANGUAGE: English  
 SECTION:  
 CA215002 Immunochemistry  
 IDENTIFIERS: ICAM 1 glycoprotein rhino virus receptor  
 DESCRIPTORS:  
 Glycoproteins, specific or class, ICAM-1...  
 as receptor for human rhinovirus  
 Receptors...  
 for human rhinoviruses, ICAM-1 glycoprotein as  
 Antigens, LFA-1...  
 ICAM-1 glycoprotein binding to, human rhinovirus receptor in relation to  
 Virus, animal, human rhino-...  
 receptor for, ICAM-1 glycoprotein as

10/7/15 (Item 9 from file: 399)  
 DIALOG(R) File 399:CA SEARCH(R)  
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110092901 CA: 110(11)92901k JOURNAL  
 Biochemical characterization of a glycoprotein required for rhinovirus attachment  
 AUTHOR(S): Tomassini, Joanne E.; Maxson, Tacy R.; Colonno, Richard J.  
 LOCATION: Dep. Virus Cell Biol., Merck Sharp and Dohme Res. Lab., West

Point, PA, 19486, USA

JOURNAL: J. Biol. Chem. DATE: 1989 VOLUME: 264 NUMBER: 3 PAGES:  
1656-62 CODEN: JBCHA3 ISSN: 0021-9258 LANGUAGE: English

SECTION:

CA214003 Mammalian Pathological Biochemistry

IDENTIFIERS: sialoglycoprotein rhinovirus receptor, virus rhino  
attachment sialoglycoprotein

DESCRIPTORS:

Receptors...

for human rhinovirus, 90-kilodalton sialoglycoprotein as, biochem.  
characterization of

Sialoglycoproteins, 90,000-mol.-wt....

of cell membrane, as human rhinovirus receptor, biochem.  
characterization of

Adhesion, bio-...

of human rhinovirus to host cell, 90-kilodalton sialoglycoprotein in,  
biochem. characterization of

Virus, animal, human rhino-...

receptor for, host cell 90-kilodalton sialoglycoprotein as, biochem.  
characterization of

10/7/16 (Item 10 from file: 399)

DIALOG(R) File 399: CA SEARCH(R)

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108201617 CA: 108(23)201617d JOURNAL

Characteristics of the minor group receptor of human rhinoviruses

AUTHOR(S): Mischak, Harald; Neubauer, Christoph; Kuechler, Ernst; Blaas,  
Dieter

LOCATION: Inst. Biochem., 1090, Vienna, Austria

JOURNAL: Virology DATE: 1988 VOLUME: 163 NUMBER: 1 PAGES: 19-25

CODEN: VIRLAX ISSN: 0042-6822 LANGUAGE: English

SECTION:

CA210006 Microbial Biochemistry

IDENTIFIERS: receptor human rhinovirus, virus human rhino receptor

DESCRIPTORS:

Receptors...

for human rhinovirus, on HeLa cell

HeLa cell...

human rhinovirus receptor on, characterization of

Virus, animal, human rhino-...

receptor for, on HeLa cell

10/7/17 (Item 11 from file: 399)

DIALOG(R) File 399: CA SEARCH(R)

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104204798 CA: 104(23)204798s JOURNAL

Isolation of a receptor protein involved in attachment of human  
rhinoviruses

AUTHOR(S): Tomassini, Joanne E.; Colonno, Richard J.

LOCATION: Dep. Virus Cell Biol., Merck Sharp and Dohme Res. Lab., West  
Point, PA, 19486, USA

JOURNAL: J. Virol. DATE: 1986 VOLUME: 58 NUMBER: 2 PAGES: 290-5

CODEN: JOVIAM ISSN: 0022-538X LANGUAGE: English

SECTION:

CA114003 Mammalian Pathological Biochemistry

CA113XXX Mammalian Biochemistry

IDENTIFIERS: human rhinovirus receptor protein HeLa cell, virus rhino  
receptor protein HeLa cell

DESCRIPTORS:

Receptors...

for human rhinovirus, on HeLa cell

Proteins, 90,000-mol.-wt....

of HeLa cell, as receptor for human rhinovirus

Virus, animal, human rhino-...

receptor protein for, on HeLa cell

HeLa cell...

receptors of, for human rhinovirus

10/7/18 (Item 1 from file: 624)

DIALOG(R) File 624: McGraw-Hill Publications

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0376477

Multimeric form of %%%human%%% %%%rhinovirus%%% %%%receptor%%% protein

Biotechnology Newswatch April 20, 1992; Pg 10; Vol. 12, No. 8

Journal Code: BIO

ISSN: 0275-3687

Section Heading: BioTechnology PatentWatch

Word Count: 102

TEXT:

EPO 468 257

Published: Jan. 29, 1992

Filed: July 6, 1991

Priority: July 20, 1990

Molecular Therapeutics Inc., West Haven, CT

The present invention relates to novel forms and configurations of intercellular adhesion molecule (ICAM) including multimeric configurations that effectively bind to human rhinovirus and can effectively reduce HRV infectivity. When in a multimeric configuration, preferably as dimers, these proteins display enhanced binding of HRV and are able to reduce HRV infectivity as well as the infectivity of other viruses known to bind to the "major" group %%%human%%% %%%rhinovirus%%% %%%receptor%%% (HRR). The multimerized proteins may also be used to block tICAM interaction with lymphocyte function-associated antigen-1 (LFA).

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10/7/19 (Item 2 from file: 624)

DIALOG(R) File 624: McGraw-Hill Publications

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0247466

European patent disclosures: early clues to competitor activity

Biotechnology Newswatch October 15, 1990; Pg 3; Vol. 10, No. 20

Journal Code: BIO

ISSN: 0275-3687

Dateline: WASHINGTON, D.C.

Word Count: 14,072

TEXT:

Biotechnology patent applications backlogged in the U.S. Patent and Trademark Office pipeline now total 8,213. A report from the General Accounting Office released early this month states that a 26-month waiting period is typical before a patent in the field of biotechnology is granted. For other applications, the wait averages 19 months.

Meanwhile, the European patent-granting authorities publish patent applications six months after their priority filing in the country of origin. Until two years ago, Newswatch produced a separate newsletter, Biotechnology PatentWatch, which provided analytical, in-depth summaries of

EPO 379 890

Published: Aug. 1, 1990

Filed: Jan. 10, 1990

Priority: Jan. 23, 1989

50 pages

Fujisawa Pharmaceutical Co. Ltd., Osaka, Japan

New tissue plasminogen activator

New tissue plasminogen activator which has a strong activity for converting plasminogen into plasmin and is useful as a thrombolytic agent comprising a N-terminal peptide of plasminogen linked to t-PA having a special amino acid sequence; a DNA encoding amino acid sequence of the t-PA as mentioned; an expression vector comprising the said DNA and a pharmaceutical composition comprising the said t-PA; the said t-PA is produced by culturing a host cell transformed with an expression vector comprising DNA encoding amino acid sequence of the said t-PA in a nutrient medium, and recovering the resultant t-PA from the cultured broth.

EPO 379 903

Published: Aug. 1, 1990

Filed: Jan. 11, 1990

Priority: Jan. 13, 1989

12 pages

Ajinomoto Co., Inc., Tokyo, Japan

Process for producing L-amino acids by fermentation

A microorganism belonging to the genus Brevibacterium or the genus Corynebacterium, which has resistance to a peptide containing glutamic acid or aspartic acid is capable of producing an L-amino acid in high yields. A process for producing an L-amino acid by culturing in a liquid medium an L-amino acid producing microorganism belonging to the genus Brevibacterium or the genus Corynebacterium is provided, in which an L-amino acid producing microorganism is used, which has resistance to a peptide containing glutamic acid or aspartic acid.

EPO 379 904

Published: Aug. 1, 1990

Filed: Jan. 12, 1990

Priority: Jan. 24, 1989

16 pages

Molecular Therapeutics, Inc., West Haven, CT

A soluble molecule related to but distinct from ICAM-1

The present invention relates to a soluble form of intercellular adhesion molecule (sICAM-1) and purified and isolated human sICAM-1. This invention also relates to a purified and isolated DNA sequence encoding sICAM-1. The extracellular domain of sICAM-1 and insoluble ICAM-1 are substantially the same. ICAM-1 is involved in the process through which lymphocytes attach to cellular substrates during inflammation and serves as the major %human% %rhinovirus% receptor (HRR). sICAM-1 therefore has both the property of reducing immune inflammation and inhibiting infection of rhinovirus and Coxsackie A virus.

EPO 379 999

Published: Aug. 1, 1990

Filed: Jan. 19, 1990

Priority: Jan. 19, 1989

43 pages

Hakuto Chemical Co., Ltd., Tokyo, Japan

Polysaccharide, and water absorbent, moisture absorbent or humectant and thickening agent chiefly made of the polysaccharide, and cultivation method of producing it by a microorganism

\$0.48 Estimated cost File434  
 \$0.11 0.019 DialUnits File456  
 \$0.11 Estimated cost File456  
 \$0.07 0.023 DialUnits File467  
 \$0.07 Estimated cost File467  
 \$5.87 1.068 DialUnits File624  
 \$6.00 2 Type(s) in Format 7  
 \$6.00 2 Types  
 \$11.87 Estimated cost File624  
 OneSearch, 33 files, 10.987 DialUnits FileOS  
 FTSNET 0.266 Hrs.  
 \$169.15 Estimated cost this search  
 \$170.54 Estimated total session cost 11.315 DialUnits

File 35:Dissertation Abstracts Online 1861-1998/Nov  
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Set	Items	Description
---	----	-----
? s intercellular(w)adhesion(w)molecule?		
	836	INTERCELLULAR
	3183	ADHESION
	25550	MOLECULE?
S1	54	INTERCELLULAR (W) ADHESION (W) MOLECULE?
? s human(w) rhinovirus (w) receptor?		
	64130	HUMAN
	60	RHINOVIRUS
	17229	RECEPTOR?
S2	0	HUMAN (W) RHINOVIRUS (W) RECEPTOR?
? s rhinovirus		
S3	60	RHINOVIRUS
? s s3 and receptor		
	60	S3
	14129	RECEPTOR
S4	11	S3 AND RECEPTOR
? t s4/3/1-11		

4/3/1  
 DIALOG(R)File 35:Dissertation Abstracts Online  
 (c) 1998 UMI. All rts. reserv.

01555846 ORDER NO: AAD97-11815  
 HUMAN %%%RHINOVIRUS%%% -16: CHARACTERIZATION OF MUTANTS REQUIRING  
 CAPSID-BINDING WIN DRUGS FOR GROWTH (VIRION, HRV)  
 Author: WANG, WENSHENG  
 Degree: PH.D.  
 Year: 1997  
 Corporate Source/Institution: THE UNIVERSITY OF WISCONSIN - MADISON (0262)  
 Source: VOLUME 57/12-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
 PAGE 7380. 112 PAGES

4/3/2  
 DIALOG(R)File 35:Dissertation Abstracts Online  
 (c) 1998 UMI. All rts. reserv.

01534614 ORDER NO: AAD97-06708

•EFFECTS OF NEUTRALIZING ANTIBODIES ON EXTRACELLULAR EVENTS IN HUMAN

%%RHINOVIRUS%% REPLICATION

Author: COOK, CARRIE LEE

Degree: PH.D.

Year: 1996

Corporate Source/Institution: THE UNIVERSITY OF WISCONSIN - MADISON (0262)

Source: VOLUME 57/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 6399. 249 PAGES

4/3/3

DIALOG(R)File 35:Dissertation Abstracts Online

(c) 1998 UMI. All rts. reserv.

01520109 ORDER NO: AAD96-38265

THE STRUCTURE OF HUMAN %%RHINOVIRUS%% 3 AT 3.0 A RESOLUTION (%%RHINOVIRUS%%, CRYSTALLOGRAPHY)

Author: ZHAO, RUI

Degree: PH.D.

Year: 1996

Corporate Source/Institution: PURDUE UNIVERSITY (0183)

Source: VOLUME 57/07-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 4189. 185 PAGES

4/3/4

DIALOG(R)File 35:Dissertation Abstracts Online

(c) 1998 UMI. All rts. reserv.

01464498 ORDER NO: AADAA-IC469008

CHARAKTERISIERUNG DES HUMANEN %%RHINOVIRUS%% "MINOR GROUP" REZEPTORS  
Original Title: CHARACTERIZATION OF THE HUMAN %%RHINOVIRUS%% MINOR  
GROUP %%RECEPTOR%% (INTERCELLULAR ADHESION MOLECULE 1)

Author: HOFER, FRANZ

Degree: DR.TECHN.

Year: 1991

Corporate Source/Institution: TECHNISCHE UNIVERSTAET WIEN (AUSTRIA) (5807)

Source: VOLUME 57/01-C OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 225. 73 PAGES

Location of Reference Copy: UNIVERSITATSBIBLIOTHEK, TECHNISCHE  
UNIVERSITAT WIEN, RESSELGASSE 4, A-1040 WIEN, AUSTRIA

4/3/5

DIALOG(R)File 35:Dissertation Abstracts Online

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01423783 ORDER NO: AADAA-I9522211

CONFORMATIONAL ALTERATION AND %%RECEPTOR%% ATTACHMENT OF POLIOVIRUS: A  
PRELUDE TO INFECTION

Author: HARBER, JAMES

Degree: PH.D.

Year: 1994

Corporate Source/Institution: STATE UNIVERSITY OF NEW YORK AT STONY  
BROOK (0771)

Source: VOLUME 56/03-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 1221. 170 PAGES

4/3/6

DIALOG(R)File 35:Dissertation Abstracts Online  
(c) 1998 UMI. All rts. reserv.

01324707 ORDER NO: AAD93-34406  
THE COMMON COLD: STRUCTURAL DETERMINATION OF HRV16, ITS COMPLEX WITH THE  
CELLULAR %%%RECEPTOR%%% ICAM-1, ITS IMPLICATIONS IN TERMS OF DRUG DESIGN  
AND THE UNDERSTANDING OF THE VIRUS LIFE CYCLE  
Author: OLIVEIRA, MARCOS ALCANTARA DE  
Degree: PH.D.  
Year: 1993  
Corporate Source/Institution: PURDUE UNIVERSITY (0183)  
Source: VOLUME 54/07-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 3607. 198 PAGES

4/3/7

DIALOG(R)File 35:Dissertation Abstracts Online  
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01311159 ORDER NO: AAD93-25575  
DEVELOPMENT OF HELA CELL LINES THAT DIFFERENTIATE HUMAN RHINOVIRUSES USING  
THE MAJOR CELLULAR %%%RECEPTOR%%% (RHINOVIRUSES)  
Author: RINEHART, JANET EMILEA  
Degree: PH.D.  
Year: 1993  
Corporate Source/Institution: THE OHIO STATE UNIVERSITY (0168)  
Source: VOLUME 54/05-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 2350. 145 PAGES

4/3/8

DIALOG(R)File 35:Dissertation Abstracts Online  
(c) 1998 UMI. All rts. reserv.

01306917 ORDER NO: AAD93-06481  
PATHWAYS OF HUMAN %%%RHINOVIRUS%%% 14 RESISTANCE TO WIN COMPOUNDS  
Author: SHEPARD, DEBORAH ANN  
Degree: PH.D.  
Year: 1992  
Corporate Source/Institution: THE UNIVERSITY OF WISCONSIN - MADISON (0262)  
Source: VOLUME 54/04-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 1949. 151 PAGES

4/3/9

DIALOG(R)File 35:Dissertation Abstracts Online  
(c) 1998 UMI. All rts. reserv.

01123115 ORDER NO: AADD--90121  
MOLECULAR APPROACHES TO UNDERSTANDING BIOLOGICAL DIVERSITY IN RHINO- AND  
ENTEROVIRUSES (RHINOVIRUSES)  
Author: HORSNELL, PHILIP RICHARD  
Degree: PH.D.  
Year: 1990  
Corporate Source/Institution: UNIVERSITY OF ESSEX (UNITED KINGDOM) (0873)  
Source: VOLUME 51/05-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 2158. 264 PAGES

4/3/10

DIALOG(R)File 35:Dissertation Abstracts Online

.(c) 1998 UMI. All rts. reserv.

0976167 ORDER NO: AAD87-29766

THE STRUCTURE OF MENO VIRUS AT 3.0 ANGSTROM RESOLUTION

Author: LUO, MING

Degree: PH.D

Year: 1987

Corporate Source/Institution: PURDUE UNIVERSITY (0183)

Source: VOLUME 48/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 2851. 185 PAGES

4/3/11

DIALOG(R)File 35:Dissertation Abstracts Online

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876848 ORDER NO: AAD85-04049

CHARACTERIZATION OF THE PERSISTENT INFECTION OF HELA CELLS WITH  
%%RHINOVIRUS%% TYPE 2 (PICORNA VIRUS)

Author: MAHAN, KEVIN BRUCE

Degree: PH.D.

Year: 1984

Corporate Source/Institution: THE OHIO STATE UNIVERSITY (0168)

Source: VOLUME 46/01-B OF DISSERTATION ABSTRACTS INTERNATIONAL.  
PAGE 67. 136 PAGES

? s s1 not py>1990

54 S1  
428188 PY>1990

S5 6 S1 NOT PY>1990  
? t s5/7/1-6

5/7/1

DIALOG(R)File 35:Dissertation Abstracts Online

(c) 1998 UMI. All rts. reserv.

01246683 ORDER NO: AADMM-63914

EXPRESSION AND FUNCTIONAL ANALYSIS OF MURINE %%INTERCELLULAR%%  
%%ADHESION%% %%MOLECULE%% 1 (ICAM-1)

Author: CARPENITO, CARMINE

Degree: M.SC.

Year: 1990

Corporate Source/Institution: THE UNIVERSITY OF BRITISH COLUMBIA  
(CANADA) (2500)

Source: VOLUME 30/04 of MASTERS ABSTRACTS.  
PAGE 1205. 107 PAGES

ISBN: 0-315-63914-8

Cell adhesion molecules enhance interactions between adjacent cells in order to mediate a large variety of functions of the immune system. An antibody against the murine lymphocyte surface antigen MALA-2 has previously been shown to inhibit mixed lymphocyte response. A  $\lambda$ gt10 cDNA library from NS-1 cells was screened and a cDNA clone, K3-1.1, was previously isolated. It had significant homology to the human ICAM-1 gene. This thesis covers the isolation of a second cDNA clone, K4-1.1, and its comparison to K3-1.1 in terms of expression, function and distribution.

The two clones are identical in sequence with the exception of the 5' ends. Expression of these two clones was examined using a transient expression system of COS cell transfection. Cell surface expression of the K3-1.1 clone could not be detected by FACS analysis. Even when the 5' untranslated region of the K3-1.1 clone (which has 10 potential translation start sites) was removed, protein could not be

detected at the cell surface, intracellularly, or extracellularly. However, K4-1.1 expression was detected at the cell surface. Northern blot analysis reveals that there are two distinct messages which are likely to be represented by the two clones. When the northern blot was probed with the 5' end of the K3-1.1 clone, only one of the messages was detected. This together with the result of Southern blot analysis suggests that the two messages are likely the result of alternate splicing.

In order to examine the interactions of the murine ICAM-1 with the surface of other cells, an expression system which would produce large amounts of a secreted soluble form was established. The soluble protein was purified from the supernatant of transfected cells by an antibody-affinity column and used in preliminary binding assays.

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01204075 ORDER NO: AAD91-35443  
GENE TRANSFER, COAMPLIFICATION, AND CHARACTERIZATION OF TWO  
MELANOMA-ASSOCIATED CELL SURFACE ANTIGENS

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Degree: PH.D.

Year: 1990

Corporate Source/Institution: CORNELL UNIVERSITY MEDICAL CENTER (0967)

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This dissertation describes interspecific transfer and amplification of genes specifying two human melanoma-associated glycoprotein antigens (MAA), 100kDa MAA and 96kDa MAA.

Coprecipitates containing human melanoma DNA and a selectable vector introduced the genes specifying each antigen into B16 mouse melanoma host cell clone, B78H1.

Presumed primary\$ (1\sp{\rm o})\$ transfectant colonies expressing the 100kDa MAA, and additional colonies expressing the 96kDa MAA were detected at frequencies of approximately  $3 \times 10^{-4}$  and  $0.7-2 \times 10^{-4}$  respectively, per vector-positive colony, or  $5 \times 10^{-6}$  and  $1-3 \times 10^{-6}$  per DNA-exposed cell. Secondary\$ (2\sp{\rm o})\$ and tertiary\$ (3\sp{\rm o})\$ transfections using DNA's from 1\sp{\rm o} and 2\sp{\rm o} transfectant cells as source of MAA genes yielded positive colonies at frequencies of  $3 \times 10^{-6}$  and  $2 \times 10^{-5}$  (100kDa MAA) respectively, and  $10^{-6}$  and  $3 \times 10^{-6}$  (96kDa MAA) per DNA-exposed cell.

Immunoprecipitation-SDS-PAGE analyses indicated that the transfected form of each MAA closely resembles the native human melanoma antigen. Slight detected differences observed were posttranslational.

Co-amplification strategy was used to increase dosages of each MAA gene. In the host cells, this entailed inclusion of a mouse wild-type dihydrofolate reductase (dhfr) cDNA expression vector with other salient DNA's in coprecipitates added to B78H1 cells. After immunological detection of MAA gene transfectant colonies, the latter were selected stepwise with increasing concentrations of the DHFR inhibitor methotrexate (MTX), for progressive copy number amplification of the transgenomic dhfr gene. Parallel increases (co-amplification) of up to  $\geq 50$ -fold were noted in dosages of transgenomic MAA gene-associated human sequences, and in synthesis and surface expression of each transfected antigen.

In comparative gene transfer experiments, DNA from a highly co-amplified 96kDa MAA\sp+ transfectant clone was  $\sim 100\times$  less efficient at introducing 96kDa MAA genes into the malignant fibroblast line LMTK\sp-. This suggests that cell type-specific regulatory mechanisms are critical for transgenomic expression of the 96kDa MAA. In contrast, the 100kDa gene is efficiently transferred into LMTK\sp- and other fibroblast

and melanocytic host cells.

Sequencing of 96kDa MAA gene cDNA has shown that the 96kDa MAA is essentially identical to the IFN-gamma ~~intercellular~~ ~~adhesion~~ ~~molecule~~ ICAM-1, an important immune cell adhesion molecule involved in thymocyte maturation and activation. Potential involvement of 96kDa MAA/ICAM-1 function in melanoma biology are discussed. (Abstract shortened with permission of author.)

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01170444 ORDER NO: AAD91-23335

THE ROLE OF KERATINOCYTES IN CUTANEOUS IMMUNE AND INFLAMMATORY RESPONSES  
(IMMUNE RESPONSES, CYTOKINES)

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Director: FREDIKA M. ROBERTSON

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The epidermis is the primary interface between the host and the environment and as such it contains cells that can induce and amplify immune and inflammatory responses. Keratinocytes are the primary cell type which makes up the epidermis. Under normal conditions, keratinocytes provide a protective barrier for the host against injury, wounding or trauma from the external environment. However, recent evidence has suggested that these cells play a greater role than previously believed in maintaining host integrity.

The evidence that keratinocytes interact with immune cells and may directly alter the function of lymphocytes and macrophage is based on clinical observations. In cutaneous disease states that are characterized by an infiltration of mononuclear cells and T lymphocytes into the epidermis, keratinocytes have been reported to have enhanced functional activities similar to those observed of activated macrophage. To better understand the role that keratinocytes play in cutaneous inflammatory and immune responses, the functions of cultured human epidermal keratinocytes following exposure to cytokines produced by immune cells which infiltrate the epidermis during inflammation and disease states were examined. The cytokines included gamma interferon ( $\gamma$ -IFN) and Interleukin-2 (IL-2) produced by activated T-lymphocytes and Tumor Necrosis Factor-alpha (TNF- $\alpha$ ), a macrophage derived cytokine. The tumor promoting and inflammatory properties of the phorbol ester 12-O-tetradecanoylphorbol-13-acetate (TPA) led to its inclusion in the examination of effects on cultured keratinocytes. Both morphological and functional alterations in the cultured keratinocytes were observed following exposure to the mediators which correlated with alterations observed in vivo during disease states. The treated keratinocytes were induced to express class II MHC molecules (HLA-DR, -DP, -DQ), ~~intercellular~~ ~~adhesion~~ ~~molecules~~ (ICAM-1) and IL-2 receptors, all membrane components critical to cellular participation in immune responses.  $\gamma$ -IFN and TNF- $\alpha$  exposure also stimulated increased levels of Interleukin-1 synthesis and release, as well as increased production of hydrogen peroxide by the cultured keratinocytes. The interaction between keratinocytes and immune cells, including both lymphocytes and monocytes, may be a key factor in the ability of keratinocytes to act as both active participants as well as target cells during inflammation. The results obtained support the hypothesis that keratinocytes are active participants in the epidermal inflammatory and

.immune response. Taken together, observations suggest that keratinocytes have a primary role in the maintenance of homeostasis and cutaneous immunosurveillance.

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01135594 ORDER NO: AAD90-35469

STUDIES ON THE MECHANISMS AND REGULATION OF LYMPHOCYTE ADHESION (MONOCLONAL ANTIBODIES)

Author: DUSTIN, MICHAEL LORAN

Degree: PH.D.

Year: 1990

Corporate Source/Institution: HARVARD UNIVERSITY (0084)

Source: VOLUME 51/07-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

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Molecular mechanisms of lymphocyte adhesion were studied using monoclonal antibodies (mAb), immunoaffinity isolated adhesion receptors and an array of adhesion assays. These studies further defined relevant molecular interactions and revealed two points of regulation.

I purified the widely distributed glycoprotein LFA-3 and demonstrated its interaction with the T lymphocyte surface glycoprotein CD2. Two forms of LFA-3 were isolated with identical N-termini, but different mechanisms for anchorage to the membrane. One form of LFA-3 was found to be a transmembrane protein, while the other was found to be anchored by a glycosylphosphatidylinositol (GPI) moiety. Enzymatic cleavage of the GPI-anchor yielded a soluble, monomeric form of LFA-3 which inhibited adhesion at a concentration of  $1 \mu\text{M}$ . In contrast, octameric protein micelles of GPI-anchored LFA-1 bound cells with a  $K_d$  between 1 and 10 nM. Octameric LFA-3 triggered T lymphocyte activation and proliferation when bound to T lymphocyte CD2 with a non-mitogenic CD2 mAb.

A second mechanism for lymphocyte adhesion is based on leukocyte LFA-1 interaction with intercellular adhesion molecule-1 (ICAM-1) or ICAM-2. This mechanism is regulated by changes in LFA-1 avidity and ICAM-1 expression.

Adhesion mediated by LFA-1 interaction with ICAMs is dependent on leukocyte activation. Avidity of cell surface LFA-1 for ICAMs was found to be dramatically regulated by lymphocyte activation, while no change in avidity of ICAMs for LFA-1 was observed. A stable increase in LFA-1 avidity was triggered by treatment of lymphocytes with phorbol esters, while a transient increase was triggered by cross-linking of the T cell antigen receptor (TCR). The transient avidity increase in response to TCR cross-linking suggests mechanisms for strong adhesion of T lymphocytes to antigen bearing cells, subsequent de-adhesion from these interactions, and general cell locomotion.

Changes in ICAM-1 expression were shown to regulate the LFA-1/ICAM adhesion mechanism. ICAM-1 expression was increased over a period of hours to days by immunologically relevant cytokines. Increases in ICAM-1 were correlated with increased adhesiveness of lymphocytes through the LFA-1/ICAM-1 mechanism. These studies also revealed or confirmed the presence of additional ligands for LFA-1 and additional adhesion mechanisms induced by soluble products of immune responses.

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1045217 ORDER NO: AAD88-27985

THE REGULATION OF ASTROCYTE MEDIATED INTRACEREBRAL IMMUNE RESPONSES

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Degree: PH.D.

Year: 1988

Corporate Source/Institution: UNIVERSITY OF CALIFORNIA, IRVINE (0030)

CHAIR: EDWARD G. JONES

Source: VOLUME 49/12-B OF DISSERTATION ABSTRACTS INTERNATIONAL.

PAGE 5160. 176 PAGES

Research demonstrates the astrocyte is a facultative immunocompetent antigen presenting cell that is capable of mediating intracerebral immune responses. In order for the initiation of immune responses, antigen presenting cells must present antigen to T-lymphocytes in the context of the class II major histocompatibility antigens (MHC). Whereas there is a paucity of the MHC antigens in normal brain, these antigens are found on astrocytes in certain disease states or when the T-cell lymphokine  $\gamma$ -interferon is injected into the brain. Similarly, astrocyte cultures which are normally devoid of the MHC class II antigens can be induced to express these cell surface glycoproteins by the administration of  $\gamma$ -interferon. Since MHC antigens are normally absent on normal neural tissue, despite the presence of lymphocytes and MHC inducing signals within the brain, I sought to determine whether endogenous neurotransmitters or neuropeptides could act to modulate the expression of  $\gamma$ -interferon induced MHC class II antigens. Norepinephrine (NE), a major brain neurotransmitter, and vasoactive intestinal polypeptide (VIP) inhibits  $\gamma$ -interferon induced MHC class II expression on cultured brain astrocytes. It was further demonstrated that the NE effect was achieved through  $\beta$ -2-adrenergic signal transduction mechanisms since propranolol (a  $\beta$ -1 and  $\beta$ -2 antagonist) but not atenolol (a  $\beta$ -1 specific antagonist) or phentolamine (an  $\alpha$ -1 and  $\alpha$ -2 antagonist) was able to inhibit NE's downregulating effect on class II antigen expression. Furthermore, the direct addition of dipyridimole (a phosphodiesterase inhibitor) or dibutyryl cAMP dramatically inhibited interferon induced MHC expression, further supporting the hypothesis that the NE effect is mediated by cAMP dependent mechanisms.

Adhesion molecules have recently been demonstrated to play a crucial role in the process of antigen presentation and therefore in the development of immune responses. In an effort to determine whether such molecules play a role in astrocyte mediated immune responses, human fetal astrocyte cultures were examined for the presence of intercellular adhesion molecule 1 (ICAM-1). Although these cells failed to constitutively express these cell surface glycoproteins, when treated with the same cytokines that either induce or augment the expression of the MHC class II antigens, it was observed that ICAM-1 expression on these cells could be achieved. (Abstract shortened with permission of author.)

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445666 ORDER NO: AAD72-27973

A POSSIBLE ASSAY FOR INTERCELLULAR ADHESION MOLECULES

Author: ROSEN, STEVEN DAVID

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Year: 1972

Corporate Source/Institution: CORNELL UNIVERSITY (0058)

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